

MIND AND VISION

A HANDBOOK FOR THE CURE OF IMPERFECT
SIGHT WITHOUT GLASSES

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THE FUNDAMENTAL PRINCIPLE

by

Dr. W. H. BATES.

Do you read imperfectly? Can you observe then that when you look at the first word, or the first letter, of a sentence, you do not see best where you are looking; that you see other words, or other letters, just as well as or better than the one you are looking at? Do you observe also that the harder you try to see, the worse you see?

Now close your eyes and rest them, remembering some colour, like black or white, that you can remember perfectly. Keep them closed until they feel rested, or until the feeling of strain has been completely relieved. Now open them and look at the first word or letter of a sentence for a fraction of a second. If you have been able to relax, partially or completely, you will have a flash of improved or clear vision, and the area seen best will be smaller.

After opening the eyes for this fraction of a second, close them again quickly, still remembering the colour, and keep them closed until they again feel rested. Then again open them for a fraction of a second. Continue this alternate resting of the eyes and flashing of the letters for a time, and you may soon find that you can keep your eyes open longer than a fraction of a second without losing the improved vision.

If your trouble is with distant instead of near vision, use the same method with distant letters.

In this way you can demonstrate for yourself the fundamental principle of the cure of imperfect sight by treatment without glasses.

If you fail, ask someone with perfect sight to help you.

SEVEN TRUTHS OF NORMAL SIGHT

- 1 Normal Sight can always be demonstrated in the normal eye, but only under favourable conditions.
- 2 Central Fixation : The letter or part of the letter regarded is always seen best.
3. Shifting : The point regarded changes rapidly and continuously.
4. Swinging : When the shifting is slow, the letters appear to move from side to side, or in other direction with a pendulum like motion.
- 5 Memory is perfect. The colour and the background of the letters or other objects seen are remembered perfectly, instantaneously and continuously.
6. Imagination is good. One may even see the white part of letters whiter than it really is, while the black is not altered by distance, illumination, size or form of the letters.
7. Rest or relaxation of the eye and mind is perfect and can always be demonstrated.

When one of these seven fundamentals is perfect, all are perfect.

MIND AND VISION

AT THE FEET OF THE MOTHER

These Methods are Perfectly
Effective.....Sri Aurobindo.

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Dr W. H. Bates, M.D , (New York.)

Ophthalmologist and discoverer of the cure of imperfect
sight by treatment without glasses.



H. H. The Alwar

"His Highness has been greatly benefited by Dr. Agarwal's methods of treatment, which are very hygienic and efficacious and it does not require much time to prove their usefulness....."

—P. Secy. to H. H. The Alwar.



H. H. The Maharaja of Nepal

"The skill and ability of Dr. Agarwal in treating cases of eye defects were much appreciated."



**Sir Mohan Shumsher Jang Bahadur
Rana, K.G.I.E., Senior Commanding
General, Nepal :**

“My heartfelt gratitude is due to Dr. Agarwal who came to me as a messenger of hope and has brought me such an unexpected relief.”

PREFACE TO SECOND EDITION

It is with great pleasure that I bring about the second edition of the present book. It may be added that this book has been carefully and thoroughly revised, and some new chapters on different eye diseases, namely myopia, hypermetropia, astigmatism, presbyopia, squint, floating specks, detachment of retina, retinitis pigmentosa, cataract, etc., with case reports, have been added. I have no doubt that these additions have rendered the book more useful to laymen as well as doctors

R. S. Agarwal

FOREWORD

Of the ailments created by the highly artificial conditions in which men are living on account of civilisation, eye-troubles can be placed in the fore-front. Reading and writing, painting, embroidering and other fine artistic works, living in crowded cities full of dust and heat as well as obstruction to the range of vision, continuous physical and mental strain caused by the exacting conditions of life have created a state of things which affects the eye-sight so much that, at the present day, it will be no exaggeration to say that above ninety per cent. people suffer from defective eye-sight. It is obvious that all these cases are not due to some organic disease in the eye. The remedy of glasses, the most popular and most commonly used at the present day, is no remedy at all. Glasses neither cure the defect nor completely stop the progress of myopia or hypermetropia. They are simply an aid to the eye, as crutches are to the lame. Any one who has ever worn glasses for some time knows what a torture they are. It is almost impossible to find the glasses which will exactly fit the eyes; then there is the difficulty of keeping them in the right position, of keeping them clean and transparent, besides the constant danger of having them thrust into the eyes by the slightest knock from the outside. People accept glasses as something indispensable (I was told by veteran eye-specialists that two pairs of glasses, one for distant vision and another for near vision, were as indispensable to me as food; but thanks to the simple methods described in this book, I have been able to

discard glasses permanently) and they are consoled by the fact that they are being worn practically by all people now-a-days, young or old; it has become so much a fashion with educated men to wear spectacles that it is almost regarded as a sign of respectability and culture. But slavery to custom and fashion is one of the worst forms of slavery standing in the way of man's progress.

Nature teaches us to use our faculties, to walk, to speak, to use our teeth and eyes as well as to think and reason; but it is well-known that by training man can do all these natural functions much better, in a much more effective, aesthetic and harmonious way, insuring their healthy functioning and development; and doing this is itself natural, as it is Nature that has supplied man with intelligence and will so that he may rise above the mechanical modes of the mere animal life and evolve a higher rational and spiritual life. By the exercise of his *Buddhi*, man can guide and control the natural instincts and impulses, even discard them when they are inimical to his upward evolution, and form new habits which may become a "second nature." The history of human civilisation and culture is mostly a formation of these habits. In this way, man has evolved society and government, religion and science, art and poetry; and has already risen considerably above the primitive state of Nature. But as a sort of compensation, he has lost the vital balance which keeps the animals and primitive men in excellent bodily health. Man must recover that balance now, not by going back to the state of the cave-man as some people seem to advocate, but by rising to a higher level, and Nature

herself supplies the clues to such a higher harmony to which humanity is destined. Though it is essential to have a healthy and strong body for the development of our higher possibilities, the health and animal joys of the primitive life are certainly not worth having at the cost of civilisation and culture. The natural instincts and impulses are most effective so far as they go, but they do not go very far. In order to rise to a higher order of life, man must be able to adapt himself consciously and intelligently to changed conditions. The process of evolution in Nature has been inconscient; in man, she has risen to an intelligent consciousness so that she may achieve her last conquest by evolving a body free from disease, old age and death, which will be the vehicle of a spiritual divine life and thus realise the goal of immortality on earth foreseen and predicted by her prophets.

The real remedy of the eye troubles, from which so many people are suffering to-day, is not wearing spectacles, but to learn how to use the eyes properly. It is a well-known fact, though often neglected in practice, that the mind and the body require sufficient exercise as well as rest in order to function healthily. That wonderful vital organ, the heart, shows what amount of work our organs can do if exercised properly. Nature has put such rhythm into its action that, in the midst of work, it recoups itself by rest and can go on working indefinitely keeping the body alive. The eye is another organ which has to act almost continually—even in sleep the eye is working with the activity of the mind and imagination—and Nature has provided means so that it may get sufficient rest in the midst

of continuous work. It is by ignorant neglect of taking full advantage of these means that men suffer from most of their eye troubles.

The first essential thing to learn about the eye is to learn the use of the eye-lids. The eye gets rest whenever it is closed and the eye-lids are there to give that rest continually. The normal eye blinks or closes and opens very frequently. See how the eye-lids work in a child who has not yet lost its natural impulse and acquired the vicious habit of staring. You do not see a thing better by staring, as the eye soon gets tired and the vision becomes blurred. We see things perfectly only when we blink frequently; the natural, normal blinking is so swift and gentle that the vision is not at all interrupted, but that momentary closing of the eye effectively prevents strain which is the root cause of eye troubles. In cases of imperfect sight, this natural habit is lost and must be regained by constant and deliberate practice.

Another essential thing to learn about the use of the eyes is the way of giving relaxation to them when they become tired. They should be given complete rest for some time. Closing the eye always gives rest, but that rest is not complete, as some light penetrates through the closed eye-lids; so the closed eyes should be covered with the palm of one or both hands so as to cut off the light completely. Even then the eye may not get complete rest, as the eye always works with the mind, and if the mind is not restful and relaxed, the eye also will not be relaxed. That is why we often get up from bed in the morning with our eyes tired, if not actually aching, sometimes accompanied

by headache. To give the eyes complete rest and relaxation, we have to cover the closed eyes with the palm of our hands and allow the mind to drift with pleasant thoughts and images. This is such a wonderful method of giving relaxation to the eyes that there is hardly any case of eye trouble which is not substantially relieved by it. Another effective method of relaxing the eye is swinging. Nature has provided the eye with such a delicate machinery that it can always move freely, and it is only by doing so that it can remain healthy and in good condition. The eye is strained whenever it remains stationary, and is relieved when it moves with the movement of the head and the body. The active life of the primitive man in the open air and the sun is very good for the eye as well as for general health, and it is a movement in the right direction that people now are trying to counteract the evil effects of artificial living by taking as much free exercise in the open air and the sun as possible. But the usefulness of these things for the eye has not yet been fully realised and requires explanation and emphasising.

The theory that errors of refraction are due to permanent defects of the lens or the eye-ball leads to the use of glasses as the only means of counteracting their effects. But it has been conclusively proved by thousands of experiments made by Dr. W. H. Bates, M.D., of America, that all abnormal actions of the external muscles of the eye-ball are accompanied by a strain, and that, with the relief of this strain, the action of the muscles becomes normal and all errors of refraction disappear. Most of the cases of defective eye-sight, for which glasses are now being used, can be cured permanently

by following a few simple exercises which relieve the strain. This is a great discovery made by life-long research work by Dr. Bates. Already sanatoriums have been opened in Germany and America for popularising his methods. In our country, his methods have been thoroughly studied and tested in numerous cases by Dr. R. S. Agarwal, L.S.M.F., of Delhi, whose book on this subject I have now the honour of ushering into publication.

Modern medical practice knows no method of improving the eye-sight once it becomes defective through any cause. It can only prescribe glasses to make up for the defect and, as the sight grows poorer, it prescribes stronger and stronger glasses until some people become completely blind long before their death. If this state of things is not remedied, the whole human race will become blind in course of time and be wiped out from the face of the earth. But the ancient people knew a very effective curc for eye troubles, namely, the sun. The rays of the sun have wonderful power of giving strength to the tired and weakened optic nerves and curing or relieving all kinds of eye diseases. It is true that some people lose their sight for life by gazing at the burning sun in the hope that they will get supernatural powers. But that is a gross and ignorant abuse of the great healing powers of the sun which are being more and more recognised at the present day. One should look at the sun for some time with their eyes closed; then the eyes will not be injured, but the rays that will pass through the eye-lids will give health and strength to the eyes. As has been lucidly described in this book, sun treatment combined

with various methods of relaxation will restore normal vision to most persons who are wearing spectacles for some defect or other and making their eye-sight worse and worse; all diseases of the eye also can be effectively treated by this method. It is a very interesting discovery of Dr. Agarwal, supported by documentary evidence, described in this book, that the eye exercises devised by Dr. Bates by up-to-date scientific researches were known to the ancient Indians.

It is the experience of Dr. Agarwal that a person who is almost blind is often cured more easily by this method than one who can somehow manage to see with his glasses; for the former will practise these methods patiently, while the latter will prefer the wearing of glasses throughout life to the trouble of learning a few simple exercises and forming the correct habit of using the eyes. This is said to be human nature; but it is really the nature of stones and clods—once they are set moving on a track, they will continue to move on unless stopped or knocked away by some other force—the well-known property of inertia in matter. The true nature of man is to be fully conscious of his own condition and to make intelligent effort to remedy his defects and shortcomings and rise to a more perfect state. We can confidently give the assurance that anyone who will give a fair trial to these methods will find for himself how efficacious they are. Apart from my own experience and that of many of my friends, I have been assured by an eminent physician and eye-specialist that these methods are quite rational and scientific and that they can possibly do no harm. I have seen many people, who could not read on account of old-age sight, were able to do so.

after a few minutes only of sun treatment. Blinking improves the eye-sight immediately. Palming gives great relaxation, curing headache and other pains. These are facts which any one can demonstrate for himself. But against this, there is not only the "tamas" or inertia of man, his slowness to receive new truths and adopt new modes of life and action, but also the weight of large vested interests. Millions of pounds have been invested in the trade of spectacles and there are thousands of medical practitioners and others who earn money by prescribing and selling them. All these people naturally be against Dr. Bates' simple methods, and ridicule the idea that one can have perfect sight without glasses. On the other hand, there are people who take to these methods with great zeal and show surprising results. Dr. Bates reports the case of a patient, an old man of 70 years, who palmed for twenty hours in the course of one day and got rid of his eye troubles. A great merit of this treatment is that it costs practically nothing and is thus eminently suited to a poor country like India. Whatever be the obstacles created by ignorance, prejudice and vested interests, Dr. Bates' principles and methods are bound to prevail as they are based on truth and reason.

Any one, however old he may be, however long he may have been using glasses for astigmatism, short-sight, presbyopia or any other error of refraction, can hope to discard them permanently and regain normal sight by practising Bates' methods with patience and perseverance, though children and young people are benefited very quickly. But prevention is always better than cure. By taking a little care of the eyes at an early age, one

can have perfect sight throughout life without ever having the necessity of wearing glasses. This shows what a tremendous responsibility lies on those persons who control the educational policy and the educational institutions in the country. Education of the eye as well as of the other organs of knowledge and action ought to form an essential part of the education of boys and girls, any institution which does not make sufficient provision for this is guilty of a serious dereliction of duty. The practice of memorising books and notes which goes by the name of education in our country does more harm than good, as they stunt the growth of the natural faculties of observation, memory and imagination. Other countries are making enormous progress in the matter of education by adopting new ideas and new methods for the fullest culture of the mind and the body, but India is still rotting in old holes. Dr. Bates' principles clearly show that the education of the eye is intimately connected with the education of the mind and the will. One who has not got good memory and good imagination can never have perfect eye-sight. Imperfect memory or imagination may even produce organic changes in the eye-balls. One can, by imagining a letter imperfectly, increase the hardness of the eye-ball which is an important symptom of that serious eye disease, Glaucoma. On the other hand, improving the memory of letters and other objects improves the vision for everything. We see only what we think we see, or what we imagine. We can only imagine what we remember. It ought to be an essential part of the education of every boy and girl to develop fully the faculties of observation, memory and imagination, and as these powers will grow, the eye-sight also will become perfect.

Dr. Bates has formed a plan to check myopia in schools on the principle that unfamiliar objects always produce strain and familiar objects always relieve strain. In schools, an eye chart should permanently be placed upon the wall of each class-room and every day the children should read silently the smallest letters they can see from their seats. This takes no appreciable time and is sufficient to improve the sight of all children in one week and to cure defective eye-sight after some months. Before beginning regular school work, the students may also do palming for a few minutes. When they close their eyes covering them with the palm of their hands, the teacher can tell them some interesting story to stimulate their imagination, such as the adventures of an ant in its search for honey in a rose plant; or the students themselves may be asked to describe some interesting scene or event they may have observed. The conscious control of the muscles concerned in sight as required in the exercises devised by Dr. Bates will develop the power of will and of general self-control. All this is sufficient to show that Dr. Bates' methods have great educational possibility and certainly deserve further investigation. We hope that the Municipalities and the District Boards in the country will introduce these simple eye-exercises in their primary schools.

Dr. R. S. Agarwal has the zeal of a true missionary. His great aspiration is to see a new generation rising in India having perfect eye-sight without glasses. He is ready to go to any part of the country to give practical demonstration of his methods. We hope that educational institutions and public bodies will readily take

advantage of this generous offer. It is gratifying to learn that Dr. Agarwal, has started an eye sanatorium at Delhi, where, besides treating patients, he will give training to a selected number of students in the principles and methods of Dr. Bates.

Sri Aurobindo Asram,
Pondicherry,
February 22, 1935.

Anilbaran Roy.

MIND and VISION

INTRODUCTION

Practically every one in these days suffers from some form of defective eye-sight. Statistics show that of persons over twenty-one, living under civilized conditions, nine out of ten have imperfect sight, and the percentage increases with age; at forty, it is almost impossible to find a person free from eye defects. Yet we are told that there is no other cure of defective eye-sight than the use of glasses. Is nature guilty? Even fifty years ago, the use of glasses was very rare. It is well-known that in ancient India medical science was highly developed and we have elaborate medical books written in Sanskrit. We do not find any mention of glasses in these books. How is it then that the use of glasses has become so common now, so much so that it has become a general belief that once the eye becomes defective, there exists no other remedy than the wearing of glasses? Glasses simply neutralise the effects of the various conditions for which they are prescribed, but do not cure them. Most of the cases get worse and require higher and higher powers as time elapses. There are many persons who have normal refraction, yet cannot use their eyes without some discomfort. Some patients, who have defective vision, recover spontaneously without using glasses at all. We find differences in the prescription of glasses for the same patient by different doctors. Every ophthalmologist, who has some experience, must have noticed that some patients of aphakia (after cataract

it is almost impossible for the lay public to glean from his voluminous writings his principles and methods. In this book, I have endeavoured to summarise his principles and methods so that they may be within the easy reach of all in a single handy volume, enabling even laymen to study and practise them. I have not the least doubt that, as years roll on, there will be established all over the world schools to teach Dr. Bates' Principles of "perfect sight without glasses."

Ayurvedic fundamental ideas as propounded by Sushrutta—the son of the great sage Viswamitra of Ancient India—for the treatment of eye diseases, are found out by experience to be essentially true and efficacious. In fact, they have enabled me to further perfect Bates' methods of eye treatment. The whole of my book is based upon facts and experience and my labours will be amply awarded if people can derive some benefit from it.

R. S. Agarwal.

MIND AND VISION

CHAPTER I

THE ORGAN OF SIGHT

The essential parts of the visual apparatus are the eye, or eyeball, certain nerve cells in the hinder part of the large brain, and nerve fibres connecting the eye with these cells. Vibrations of the ether, which are known as light, produce images of the outside world on the sensitive membrane, or retina at the back of the eye, thus stimulating the ends of the optic nerve whence impulse pass back to the brain and cause the sensation of light.

The eye is contained in a bony cavity in front of the skull known as the orbit, and is thus largely protected from external violence. Moreover, as the orbit is a roomy space, the eye, which with its attached muscles, is embedded in soft, fatty tissue, is afforded a sufficiently free range of movement. In front of the eye are the lids, with their lashes, which can close and protect the eye, while in the outer part of the upper lid is the tear-gland, which helps to keep the surface of the eye moist.

The eye presents to view a circular clear transparent window known as the cornea and beyond this, the white of the eye. The latter represents the sclerotic coat, a dense tough membrane, which, except for the corneal surface, covers the eyeball. This is almost spherical, but

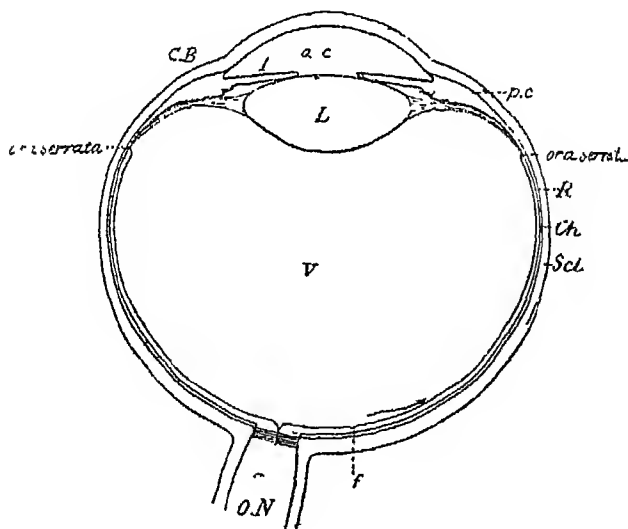
if the eye is examined from the side, it will be seen that the cornea projects from the sclerotic part, just as a concave watch glass would do were it applied to the surface of a circular orange. The cornea has no blood-vessels traversing it, but is plentifully supplied with nerves and is very sensitive. Within the sclerotic coat is the choroid, and inside this, the retina. The former has a free supply of blood-vessels and many pigment cells; it extends forward to near the junction of the cornea with the sclerotic coat, where it forms a large number of folds known as the ciliary processes, and beyond these is continuous with the outer circumference of the curtain of the eye, which is called the iris.

The iris may have a brown, blue or almost a greenish tint in different people, and is perforated by a central, circular opening, the pupil, which can vary in size. This is because the iris contains two sets of muscle fibres, some circling round it, which contract the pupil and others radiating outwards, which dilate it. The iris is covered behind by a layer of pigment cells, which prevents light passing otherwise than through the pupil.

Behind the iris is the crystalline lens of the eye which resembles a magnifying glass in miniature. It is enclosed in a capsule, and is supported all round its circumference by a membrane, the suspensory ligament of the lens, which, in turn, is attached to the ciliary processes.

If a section were made through an eyeball, it would be noted that the lens and the suspensory ligament

divide the eye into a smaller front and a largely back portion. The former is further divided into what are called the anterior and the posterior chambers of the eye; these are filled with aqueous, or watery, humour. The space behind the lens is occupied by a clear, transparent jelly, known as the vitreous humour. The aqueous humour is secreted from the ciliary processes, and is drained into the canal of Schlemm, a minute tube passing round the eye in the sclerotic coat just behind the junction of the latter with the cornea.



EYE-BALL.

C, cornea ; a. c. anterior chamber ; I, iris ; C. B., ciliary body ; P. C., posterior chamber ; L., lens ; V., vitreous ; Ch., choroid ; Scl., sclera ; f., fovea centralis ; O. N., optic nerve.

When the interior of the eye is examined with an ophthalmoscope, the surface of the retina is spread out to the view. It has a bright red colour and over it arteries and veins are coursing which are seen to emerge from a small round or oval area a little to the inner or nasal side of the back of the eye. The area is known as the optic disc, and is the place where the fibres of the optic nerve, having penetrated the sclerotic coat, spread out all over the retina.

This membrane has ten layers, but it will be sufficient to note, in addition to the layer of nerve fibres, that which is known as the layer of rods and cones and behind these a layer of pigment cells. The other layers are merely concerned with bringing the nerve fibres into relation with rods and cones, which are the cells upon which the light really acts. The names, rods and cones, are applied to the cells on account of their shape.

These cells are marshalled together in a layer all over the retina, except that there are none of them on the optic disc, and consequently there is no perception of light here. At the centre of the back of the eye, there is a little area which, from its colour, is called the macula lutea, or the yellow spot. At its centre, there is a little pit or depression, the fovea centralis, which represents the part of retina where visual perception is sharpest in ordinary illumination. It is noteworthy that lining this part, and close round it, there are only cones. On the outlying parts of the retina, however, where vision is the best in a subdued light, the rods form a great majority.

Each optic nerve presses backwards and enters the skull

through an opening at the back of the orbit. Just after doing so, the fibres, which supply the inner or nasal portion of the retina cross to the other side, the band formed by these and other crossing fibres being known as the optic commissure or chiasma.

From the commissure, the fibres pass back in the optic tract on either side to flat projections on the base of the brain called the corpora quadrigemina, in the neighbourhood of which are nerve cells forming relay stations on the way to the back part of the brain and which also act as reflex centres for the movements of the pupil. Light, that is to say, falling on the retina, produces a nerve impulse which is carried to these cells, and an impulse comes back causing the pupil to contract.

From the relay stations fibres carry visual impressions to the back parts of the occipital lobes of the brain, to nerve cells in the cortex, or the superficial part of the brain substance, where the sensation of light is appreciated; from these cells, what are called association fibre link up with other cells farther forward on the brain concerned with the storage of images and the other intellectual aspects of vision.

When the eye is fixed on an object, the image of the latter is formed about the centre of the retina, and it is upside down; it is the brain, therefore, which enables us to see things in their correct positions. If one eye is covered, besides seeing the particular object looked at, one sees more or less of its surroundings, and all that is visible is called as the field of vision of the eye. Although one is not ordinarily aware of it, there is a small area which is not seen. This corresponds to the optic disc, and lies outside the object looked at. If left eye is closed

If we compare the picture on the glass screen of the camera when the camera is out of focus with the visual impressions of the mind when the eye is out of focus, there will be a great difference between them. When the camera is out of focus, it turns black into grey, and blurs the outlines of the picture; but it produces the results uniformly and constantly. On the screen of the camera, an imperfect picture of a black object would be equally imperfect in all parts, and the same adjustment of the focus would always produce the same picture. But when the eye is out of focus, the imperfect picture, which the patient sees, is always changing, whether the focus changes or not. There will be more grey on one part than on the other. Again, the black may be changed into brown, yellow, green or even red transmutations impossible to the camera.

When the camera is out of focus, the picture, which it produces, of any object is always slightly larger than the image produced when the focus is correct; but when the eye is out of focus, the picture, which the mind sees, may be either larger or smaller than it normally would be.

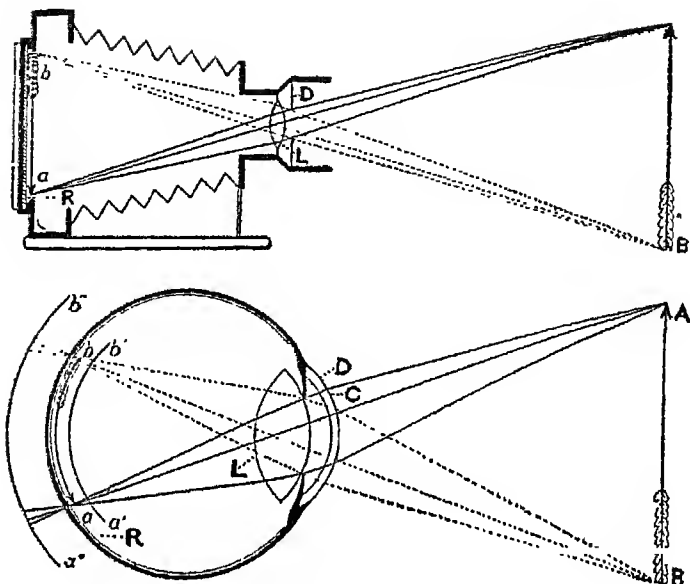
When the human eye is out of focus, the form of the object regarded by the patient frequently appears to be distorted. The image may be doubled, tripled or still further multiplied. The location of objects may also appear to change. Nothing like this could happen when the camera is out of focus.

These aberrations of vision are illusions, and not due to the fault of the eyes. It is because we see very largely with the mind and partly with the eyes. The

phenomena of vision depends upon the mind's interpretation of the impression upon the retina. What we see is not that impression, but our own interpretation of it. The moon looks smaller at the zenith than it does at the horizon, though the optical angle is the same and the impression on the retina may be the same, as at the horizon, the mind unconsciously compares the picture with the pictures of the surrounding objects, while at the zenith, there is nothing to compare it with.

Therefore, the act of seeing is passive. Things are seen just as they are felt, or heard, or tasted, without effort or volition on the part of the subject. No two persons with normal sight will get the same visual impressions from the same object; for their interpretations of the retinal picture will differ as much as their individualities differ. When the sight is imperfect, the interpretation is far more variable. Nothing like this happens in the case of two cameras.

In camera, the blurred image is brought to focus by lengthening or shortening the body of the camera. When the image in the eye is out of focus, the eyesight is said to be defective and one consciously or unconsciously makes an effort to see objects and the mind goes out of control. The muscles of the eye, which lengthen or shorten the axis of the eyeball work under the control of the mind. When the mind is at rest, they work properly and the sight is normal. When the mind is under strain, they work imperfectly, and imperfect sight is the result. By the education of the mind and the eyes through some exercises, the muscles of the eye can be trained to bring the blurred image to a focus.



The eye and Camera

Object of vision A. B.—Object to be photographed in the camera or the eye.

ab, image on the sensitive plate or retina.

a'b', image in the hypermetropic eye.

a''b'', image in the myopic eye.

Diaphragm D.—In the camera, the diaphragm is made of a circular overlapping plates of metal by means of which the opening through which the rays of light enter, the chamber can be enlarged or contracted.

In the eye, the iris acts as a diaphragm and has a natural capacity for dilating and contracting the opening called the pupil of the eye.

Lens L.—The lens behind the diaphragm, where the light rays are refracted.

Sensitive Plate R.—The sensitive plate in the camera or the retina of the eye, for receiving the image of the object.

ACCOMMODATION

The power of the eye to change its focus for vision from distance to near is called accommodation. It is generally believed (a) that the lens of the eye under the control of the ciliary muscle regulates the vision by changing its convexity according to the distance of the object from the eye; (b) that the removal of the lens does away with the power of accommodation; and (c) that the power of accommodation decreases from the age of forty and is completely lost after the age of sixty.

This theory about accommodation had been based on the images of Purkinji. If a small bright light, usually a candle, is held in front of and a little to one side of the eye, three images of the candle flame are seen:

1. Bright and upright—comes from the cornea, the transparent covering of the iris and pupil.
2. Large but less bright and upright—comes from the front of the lens.
3. Small, bright and inverted—comes from the back of the lens.

Langenbeck examined these images with the naked eye and reached the conclusion that, during accommodation, the middle image, coming from the front lens, became smaller than what it was when the eye at rest was adjusted for distant vision. Since an image reflected from a convex surface is diminished in proportion to the convexity of that surface he concluded that the front of the lens became more convex when the eye adjusted

itself for near vision. Subsequently Helmholtz, working independently, made a similar observation, but by a somewhat different method. He found the image obtained by the ordinary methods on the front of the lens very unsatisfactory, and in his "Hand-book of Physiological Optics," he describes it as being, "usually so blurred that the form of the flame cannot be definitely distinguished." So he placed two lights, or one doubled by reflection from a mirror, behind a screen in which were two small rectangular openings, the whole being so arranged that the lights shining through the openings of the screen formed two images on each of the reflecting surfaces. During accommodation, it seemed to him that the two images at the front of the lens became smaller and approached each other, while on the return of the eye to a state of rest, they grew larger again and separated. This change, he said, could be seen "easily and distinctly." The observations of Helmholtz regarding the behaviour of the lens in accommodation, published about the middle of the last century, were soon accepted as facts, and have ever since been stated as such in every text-book dealing with the subject.

Dr. W. H. Bates, in the present century, repeated the experiments of Helmholtz in the Physiological Laboratory of the College of Physicians and Surgeons, Columbia University, New York, and the New York City Aquarium. He was unable, however, by either of these methods, to obtain images that were sufficiently clear or distinct to be measured or photographed. With a thirty-watt lamp, a fifty-watt lamp, a 250-watt-lamp and a 1,000-watt lamp, there was no improvement. The light of the sun, reflected from the front of the lens, produced an

image just as cloudy and uncertain as the reflections from other sources of illumination and just as variable in shape, intensity and size. To sum it all up, he was convinced that the anterior surface of the lens was a very poor reflector of light and that no reliable images could be obtained by the means described.

After many failures and hard work, Dr. Bates became able, with the aid of a strong light (1,000-watts), a diaphragm with a small opening and a condensor, to obtain photographs of images reflected from the front part of the lens both before and after accommodation. The images were clear and distinct; and, moreover, he arranged an apparatus by which an observer could see a clear image reflected from the cornea, the iris, the front part of the lens and the front part of the sclera. There was no change in the image reflected from the front part of the lens during accommodation at different distances. All his experiments in detail will be found in his book "Perfect Sight Without Glasses."

The corneal image was one of the easiest of the series to produce and the experiment is one which almost anyone can repeat, the only apparatus required being a fifty candle-power lamp—an ordinary electric globe—and a concave mirror fastened to a rod which moves back and forth in a groove so that the distance of mirror from the eye can be altered at will. A plane mirror might also be used; but the concave glass is better, because it magnifies the image. The mirror should be so arranged that it reflects the image of the electric filament on the cornea and so that the eye of subject can see this reflection by looking straight ahead. The image in the mirror is

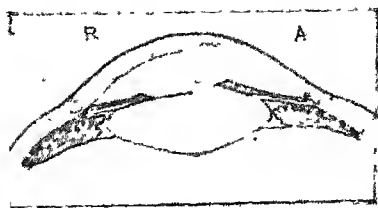


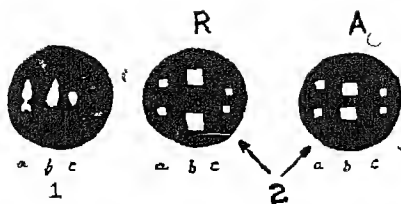
Diagram by which Helmholtz illustrated his theory of accommodation

R is supposed to be the resting state of the lens, in which it is adjusted for distant vision. In A the suspensory ligament is supposed to have been relaxed through the contraction of the ciliary muscle, permitting the lens to bulge forward by virtue of its own elasticity.



Demonstration upon the eye of a rabbit that the production of the refractive errors is dependent upon the action of the external muscles. The string is fastened to the insertion of the Superior Oblique and Rectus Muscles.

- No. 1. Backward pull. Myopia is produced.
- No. 2. Forward pull. Hypermetropia is produced.
- No. 3. Upward pull in the plane of the iris. Mixed astigmatism is produced.



"Images of Purkinji"

No. 1. Images of a candle : a, on the cornea ; b, on the front of the lens ; c, on the back of the lens. No. 2. Images of lights shining through rectangular opening in a screen while the eye is at rest (R) and during accommodation (A) ; a, on the cornea ; b, on the front of the lens ; c, on the back of the lens (after Helmholtz). Note that in No. 2. A, the central images are smaller and have approached each other, a change which, if actually took place, would indicate an increase of curvature in the front of the lens during accommodation.



Strain in Darkroom Examination

When the doctor Examines the eye in the darkroom with the retinoscope to find out the error of refraction, the patient generally keeps the eyes widely open and stares.



STRAIN

1. Raising the eyelids.
2. Frowning.
3. Squeezing the lids.
4. Raising the eye lid and eye-ball.
5. Raising the lid, moving the eye in the direction opposite to the head.
6. Lowering the lid, moving the eye to the right while the face is in front.
7. Right position of the eye.

smaller than when the eye was at rest, again indicating elongation of the eye-ball and increased convexity of the cornea, as in myopia.

SUMMARY

These studies of the images reflected from the various parts of the eye-ball demonstrate that :

1. The accommodation of the eye is affected by an elongation of the eye-ball.
2. The lens is not a factor in accommodation.
3. Myopia is produced by a strain to see distant objects.
4. Hypermetropia is produced by a strain to see near objects.

With these results, Dr. Bates reached the conclusion that the eye changes its focus by a change in its length, brought about by the action of the muscles on the outside of the eye-ball.

To prove his own theory, Dr. Bates made many thousands of experiments on animals of all kinds, full details of which may be found in the New York Medical Journal for May 8, 1915. In these experiments, Dr. Bates was able, by manipulation of the external eye muscles, to produce and prevent accommodation and errors of refraction at will.

EXPERIMENTAL OBSERVATIONS

1. (a) When two oblique muscles were present and active, accommodation or myopic refraction was always produced by electric stimulation of the eye-ball or of the nerves of accommodation near their origin in the brain.

(b) After one or both of the obliques had been cut across, or after they had been paralysed by the injection of atropine deep into the orbit, accommodation or myopic refraction could never be produced by electric stimulation.

(c) After the effects of the atropine had passed away, or a divided muscle had been sewed together, accommodation followed electrical stimulation as before.
2. (a) If one or both of the oblique muscles had been cut, and two or more of the recti were present and active, electrical stimulation of the eye-ball or of the nerves of accommodation, always produced hypermetropia.

(b) The paralysing of the recti by atropine, or cutting of them, prevented the production of hypermetropia by electrical stimulation.

(c) After the effects of the atropine had passed away or the divided muscles had been sewed together, hypermetropia was produced as usual.
3. Experiments performed on the lensless eye also showed the same results.

4. In the text-books on physiology of the eye, it is stated that accommodation is controlled by the third nerve, but experiments show that third and fourth nerves are equally important in accommodation.
 - (a) When either nerve is stimulated at the point of origin in the brain, accommodation or myopic refraction is always produced in the normal eye. When the origin is covered with a small pad of cotton soaked in 2 per cent. atropine solution, stimulation of that nerve produces no accommodation, while stimulation of the unparalysed nerve produces it.
 - (b) When the action of the oblique muscle is prevented by dividing them, stimulation of the third nerve produces no accommodation but hypermetropia.

SUMMARY

Experiments on animals demonstrate that :

1. Neither the lens nor any muscle inside the eye-ball has anything to do with accommodation, but the process is entirely controlled by the action of the muscles on the outside of the eye-ball.
2. Myopic refraction is always produced by a strain of two obliques and is always prevented by relaxation of these muscles by tenotomy (cutting).

3. Hypermetropic refraction is always produced by a strain of two or more recti, and is always prevented by relaxation of these muscles by tenotomy.

4. Atropine prevents, when injected deep into the orbit, the experimental production of errors of refraction.

5. All errors of refraction are caused by strain in the muscles. The cure is accomplished by relaxation.

CLINICAL OBSERVATIONS

1. Many persons suffering from errors of refraction often recover their vision spontaneously. Errors of refraction disappear or change in their degree, after having been carefully diagnosed under atropine. Every ophthalmologist must have noted such cases. Different doctors often prescribe glasses of different powers to the same patient. If the eye-ball is more or less a fixed organ and the error of refraction is a permanent one, then why should such differences occur?

2. In the case of disappearance or lessening of hypermetropia, we are asked to believe that the eye increases the curvature of the lens sufficiently to compensate for the flatness of the eye-ball, both at the near point and at the distance. In the case of disappearance or lessening of myopia, ciliary muscle is credited with a capacity for getting into a more or less continuous state of contraction, thus keeping the lens continuously in a state of convexity. According to the theory, the lens can increase its convexity only for vision at the near-point and not for distance.

3. It is believed that the lens changes its shape in moderate degrees of errors of refraction, and that only during the early years of life. For the variations of higher degrees, or those occurring after forty-five years of age, when the lens is supposed to have lost its elasticity to a greater or less degree, no plausible explanation has ever been devised.

4. If children are born with short or long eyes, then, why do they improve by Bates' methods?

5. If people who have had their lenses removed through a cataract operation follow Bates' methods, they can read fine print only with their distant glasses on at thirteen inches or even a less distance. Every ophthalmologist must have noted that only a minority of such cases can do the reading work very well with the distant glasses on.

In 1869 and 1870, respectively, Loring reported to the New York Ophthalmological Society and the American Ophthalmological Society "the case of a young woman of eighteen who, without any change in her glasses, read twenty feet line on the Snellen test card at twenty feet and also read fine print at a distance of five to twenty inches."

On October 8, 1894, a patient of Dr. A. E. Davis, who appeared to accommodate perfectly without a lens, consented to go before the New York Ophthalmological Society. "The members," Dr. Davis reported, "were divided in their opinion as to how the patient was able to accommodate for the near point with his distant glasses on."

These facts are offered as evidence that the lens is not a factor in accommodation, because the eye can change its focus within wide limits after the lens has been removed.

6. The cure of Presbyopia must also be added to the clinical testimony against the accepted theory of accommodation. In most of the cases, it can be easily demonstrated within a few minutes that the patient can read the finest print without glasses at a distance of 6 to 12 inches. On the theory that the lens is a factor in accommodation, such cures would be manifestly impossible when the lens is as hard as stone in old age.

A theory is strengthened by accumulation of facts. The accepted theories of accommodation and of the cause of errors of refraction do not accord with facts and multitude of them have to be explained away. During more than thirty years of clinical experience, Dr. Bates did not observe a single fact that was not in harmony with his view that the lens and the ciliary muscle have nothing to do with accommodation, and that the changes in the shape of the eye-ball, upon which errors of refraction depend, are not permanent. Clinical observations are also sufficient to show how errors of refraction can be produced at will, and how they may be cured, temporarily, in a few minutes, and permanently by continued treatment.

GLASSES

It is a general belief that once the eye becomes defective, there exists no means whereby the eye can be brought to its normal condition ; and for this, the spectacles were introduced. Having furnished the patient with suitable glasses, the eye specialist considers that he has done every thing that lies within his power to cope with the abnormal condition ; but it is a fact that the defect is not cured, it remains there and the sufferer is put only in a state of false satisfaction. The sufferer imagines that if he can see better, then his eyes must be better, and it is only after wearing spectacles for years, and having changed them more and more frequently for stronger ones, that the truth is borne in upon him that, instead of improving his eyes, the constant wearing of spectacles has made, in fact, the eyes worse, and will continue to do so.

It is true that all patients cannot attain normal vision due to imperfect practices and other circumstances. Therefore, to see clearly either for distance or near, patient requires glasses. If the oculist, while prescribing glasses, directs the patient to keep up blinking and take sun treatment for a few minutes every day, at least there would be no further deterioration of eye-sight.

Prescription of glasses has increased so much that they are put on small children, and for little complaints. In some cases, though the vision is quite good, they are prescribed simply with the idea that there would be no deterioration of eye-sight. Even if the patient resists against the use of glasses, he is advised that if he would begin to use spectacles, there would be no further deterioration ; otherwise the eye-sight would

go worse. The innocent patient is compelled to use them by such suggestions. After some time, he finds the truth that the doctor gave him wrong advice, his eyesight is deteriorating. This wrong prescription of glasses has caused much harm to the eyes; so much so, that the eyes are getting very weak.

Many patients can be much benefited by the methods of relaxation, but if the glasses are to be prescribed, they should be of lowest possible power, and their use should be limited, that is, myopic patients may use for distance and hypermetropic patients for near. Constant use of glasses is harmful. When the patient complains of headache, the oculist tries to fit on glasses. Prescription of glasses in such cases often does not relieve headache. When the headache is not relieved, the patient runs from one doctor to the other and collects a number of spectacles. The cause of the headache is not defective sight but mental strain and improper use of the eyes. There are many who have very defective sight, use no glasses, work for long hours and still do not suffer from headache. There are others who have very good eyes; but often get headache. A doctor patient, who suffered from pain in the eye-balls while reading, was fitted with spectacles fifteen times by the specialists. He was relieved of the pain in a few minutes by the method prescribed in this book.

Important Points :--

1. Glasses for the correction of far-sightedness (Hypermetropia) may, and usually do, give the wearer the impression that objects are larger than they really are; while near-sighted patients, when wearing glasses, are impressed that objects look smaller than they actually are.

2. In wearing glasses, it is necessary to look directly through the centre of glasses in order to obtain maximum vision. If one regards an object by looking in a slanting direction through the glasses, its form and location are changed.

3. The discomfort of glasses is very great with a large percentage of people who wear them. Frequently, when they complain to their doctors, or to the physicians who supplied glasses, they are advised that by perseverance their eyes will become fitted to the glasses. This does not seem quite satisfactory, because people feel that the glasses should fit their eyes, and not they should struggle along with all kinds of discomfort in order to make their eyes fit the glasses.

4. Tinted glasses, red, yellow, blue, green or black, when worn constantly, are usually felt comfortable by the patient; because the amount of light is lessened. Constant wearing of such glasses is later followed by sensitiveness to light and the necessity of stronger glasses to obtain sufficient amount of relief. Constant protection of the eyes by dark glasses, shades and other measures often cause inflammation of the eyeball and of the eye-lids, and poverty of vision.

5. Bifocal glasses sometimes cause discomfort to the eyes. Upper glass is meant to see distant objects, while the lower glass is meant for reading. One is not able to see through the junction between the two glasses. Hence one has to raise the eye-ball to see distant objects and lower the eyeball to see the near objects. The eye is forced to move up and down in an unnatural way. This unnatural movement causes great strain on the eyes.

CHAPTER II

THE CAUSE AND CURE OF ERRORS OF REFRACTION

How does the eye see?

The phenomena of seeing may be summarized as a *result of three distinct processes*:

1. *Mechanical*—the focussing action of the eye whereby the light rays in the form of an image are focussed on the sensitive film (the retina).

2. *Nervous*—the sensitivity of the retina in receiving the light rays and transmitting them to the visual centre in the brain.

3. *Mental*—the interpretation of the picture. Vision is a process of mental interpretation. The picture, which the mind sees, is not the impression on the retina, but a mental interpretation of it. The act of seeing is a passive one, and one sees involuntarily as one hears or tastes or smells.

Look at the centre of 'O'. The white centre of the letter 'O' appears to be whiter than the margin. By covering the black part of the 'O' with the screen, which has an opening in the centre, the whiteness of the centre of the 'O' appears to be of the same shade of white as the rest of the card. Now, when the screen is removed, the white centre flashes whiter. The setting

sun usually appears to be much larger than it was when overhead. Some scientists have demonstrated with the aid of the photographic camera, that the sun is always of the same size when viewed overhead as it is when viewed on the horizon. All this is illusion. The white centre of the letter 'O' is never seen whiter than the rest of the card, it is only imagined. We are daily making many mistakes when seeing objects. The object is one thing and we imagine it to be something else. A stick may be regarded as a snake, sand may be regarded as water. Thus, whatever we see depends largely upon imagination. If we imagine imperfectly, we see imperfectly. Perfect imagination can be obtained only when the mind is free from strain.

Strain as the Cause

The strain to see is a strain of the mind, and when there is a strain of the mind, there is a loss of mental control. Under the conditions of civilized life, men's minds are under a continual strain. They have more things to worry them than uncivilized man had, and they are not obliged to keep cool and collected in order that they may see and do other things upon which existence depends. If he allowed himself to get nervous, primitive man was promptly eliminated; but civilized man survives and transmits his mental characteristics to posterity. The remedy is not to avoid either near work or distant vision, but to get rid of the mental strain which underlies the imperfect functioning of the eyes at both points—near and distant. The idea that it rests the eyes not to use them is erroneous. The eyes were made to see with, and if, when they are open, they do

not see, it is because they are under such a strain and have such a great error of refraction that they cannot see.

The eye with normal sight never tries to see. If for any reason, such as the dimness of the light, or the distance of the object, it cannot see a particular point, it shifts to another. It never tries to bring out the point by staring at it, as the eye with imperfect sight is constantly doing.

Myopia is always associated with a strain to see at a distance; while hypermetropia is associated with a strain to see at a near point. There is a different strain for most abnormal conditions of the eye. The strain that produces an error of refraction is not the same as the strain that produces a squint, or glaucoma or amblyopia or inflammation, etc. Even the pain that so often accompanies errors of refraction is never caused by the same strain that causes these errors. Some myopes cannot read without pain or discomfort, but most of them suffer no inconvenience. When the hypermetrope regards an object at the distance, the hypermetropia is lessened, but pain and discomfort may be increased. While there are many strains however, there is only one cure for all of them, namely, relaxation.

What is Strain ?

To make an effort to see or to stare is called strain.

Look at the notch at the top of the big 'C' of the Snellen test card at fifteen feet. Keep your eyes fixed on the notch without closing and shifting the eyes to

some other point. Make an effort to see it and increase that effort as much as you possibly can. Notice that it is difficult to keep your eyes and mind fixed on that one point. Notice also that it is tiresome and it causes pain in the eyes. If you continue it long enough, your head begins to ache. If you look at some of the letters on the lower lines which are much smaller than the big 'C' they may appear so blurred that you are not able to distinguish them. Trying to see these small letters blurs them still more.

Look at the persons of normal eyes and of myopic eyes while seeing distant objects. Myopic eyes stare, do not blink, keep the lids raised. They are more or less fixed and do not shift from one point to another frequently. While normal eyes blink frequently and keep the lids downwards. They are moving frequently from one point to another unconsciously.

Now compare normal eyes with hypermetropic or presbyopic eyes while seeing at a near point as in reading or writing etc. Hypermetropic or Presbyopic eyes do not blink frequently, the eyes remain fixed on the black letters; while normal eyes blink frequently and see the white spaces in between the letters unconsciously. Look at the black portion of the letters and note that the blackness fades. Now look at the white space in the letters and note that the letters become darker.

How do we Strain ?

The following conditions may contribute to the strain to see :

1. By wrong use of the eyelids, that is by raising the upper lids and by stopping their gentle movement called blinking.
2. By using the eyes in a wrong way while reading, writing, sewing, seeing cinema etc. ,
3. By moving the eyeballs in the opposite direction of the head and body, for example, if the head moves to the right and the eyes to the left; or if the chin is downwards and the eyes look upwards.
4. By making an effort to see an object clearly, and by staring. Many people are unable to stare for any length of time; because staring is painful, disagreeable and produces fatigue. A boy, fourteen years of age, had practised staring and had acquired much skill in it; he was able to outstare any boy in his class-room. He then went to other classes and challenged each boy in those classes to a contest with him in staring. After sometime his eyes became inflamed and his vision became poor. Persons who stare at a dot or some other object without closing or shifting the eyes to practise *Yoga* usually suffer from myopia after sometime. A Swami practised staring and became highly myopic after sometime. It is a great mistake to think that staring at an object improves the mind or the sight.
5. By looking at unfamiliar objects, and by reading or seeing uninteresting and unpleasant things.

6. By going to the market or parties and trying to see there many a things at a time.
7. By intimating those who have defective eyesight or those who strain while talking etc.
8. By fear, anxieties, worries, physical discomforts.
9. By imperfect imagination and distorted thoughts.
10. By excess of sexual appetite.
11. By using glasses unnecessarily.
12. By imagining unfamiliar and fearful dreams during sleep.
13. By exposing the eyes to strong heat; dust and smoke.
14. By using the eyes at the time when they require rest.
15. By insufficient nourishment.

Voluntary Production of Eye Tension A Safeguard against Glaucoma

It is a good thing to know to increase the tension of the eyeball voluntarily, as this enables one to avoid not only the strain that produces glaucoma; but other kinds of strain also. To do this proceed as follows :

Put the fingers on the upper part of the eyeball while looking downward, and note its softness. Then do any one of the following things:

a. Try to see a letter, or other object, imperfectly, or (with the eye either closed or open) to imagine it imperfectly.

b. Try to see a letter, or a number of letters, all alike at one time, or to imagine them in this way.

c. Try to imagine that a letter, or mental picture of a letter is stationary.

d. Try to see a letter, or other object, double or to imagine it double.

When successful, the eyeball will become harder in proportion to the degree of strain, but, as it is very difficult to see, imagine, or remember, things imperfectly, all may not be able at first to demonstrate the facts.

Treatment of Strain

Relaxation is its treatment. If the mind of the patient is relaxed, then his eyes (together with the muscles and nerves connected with them) will become relaxed, and similarly, if the eyes and their muscles and nerves can be relaxed, then the brain, and consequently the mind also, will become relaxed; so Bates' method of treatment aims at mental and physical relaxation, and it is only when this condition of mind and body has been achieved that perfect vision is possible. The succeeding chapters will explain the methods how to relieve strain and gain relaxation.

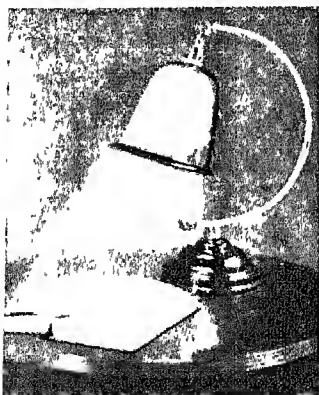
It is most important to learn now to use the eyelids and the eyes in the right way at all times. In the cure of imperfect sight right use of the eyes plays an important part. Here are few hints about the use of the eyes.

1. **Eyelids:** The upper eyelid should remain downwards, keeping the eye half open. The diagrams will clearly show the position of the lids. While looking



Blinking

1. Right position of the lid while not blinking.
2. While blinking upper lid comes a little down to cover the pupil.
3. Blinking education on wrist-watch.



Reading under Electric Lamp.

Direct rays of the table-lamp falling on the book cause strain on the eyes. One should keep the book little away from the direct bright rays.

READING



Wrong way

- 1 The head and eyes are fixed to one side

Right way

- 2 Resting the back on a high pillow, the head and eyes are free to move.

Wrong way

- 3 The book is in front of the eyes and the lids are raised

Right way

- 4 The book is at a lower level and the lids are downwards

SEWING



Right way

Eyes moving with the needle.



Wrong way

Eyes fixed on the cloth.

CINEMA



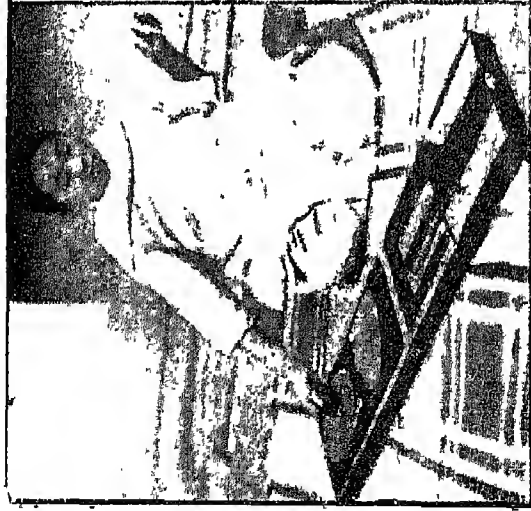
1. Wrong position of eye lids.

2. Wrong way of seeing cinema.

Right position of eye lids.

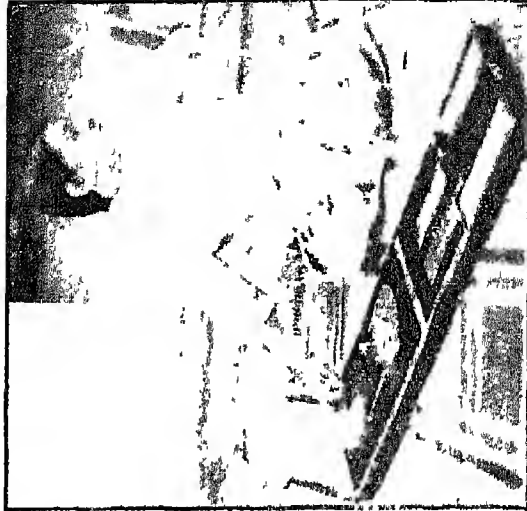
Right way of seeing cinema.

SPINNING



Incorrect way.

Sight fixed on the spindle.



Correct way.

Sight shifting with the cotton piece.

in front or upwards, the upper lid should not be raised; but only the chin, that is, the position of the lids should be at all times as at the time of reading.

It can be demonstrated that keeping the lids downwards relieves the strain. Look at the letter 'C' in the chart at fifteen feet distance. Now raise the eyelids as shown in the figure. Note that the blackness of the letter fades. Now raise the chin and bring the lids downwards. Note that the blackness increases.

The wrong position of the lids is generally seen in myopic patients and in those who use glasses and in other cases of defective sight too. Even normal eyes sometimes raise the lids. Generally in cinemas people sit in such a position that they keep the lids raised and that is why many people suffer from discomforts after seeing the cinema.

Lowering the lids gives rest, while raising the lids causes strain. This is a fundamental factor in the cure of most patients. If the patient can keep the lids downwards all the time then soon he is benefitted. It is the first thing to understand and practice. Remember that before beginning the practices of relaxation one should make the position of the lids correct and try to maintain it all the time. Do not squeeze the eyes; it is very harmful. Generally myopic patients try to see distant objects by squeezing their eyes.

2. Blinking : Blinking is the next important fundamental. The normal eye blinks frequently; it is done so rapidly and gently that we do not notice it. In blinking the

main part is played by the upper lid. The upper lid comes a little downwards to cover the pupil and is again raised, while the lower lid moves up with a little contraction of the muscles. The blinking of the normal eye is different from the blinking of the eye with imperfect sight. Blinking of the eye with imperfect sight is usually very irregular and jerky and is accompanied by a strain of the muscles of the eyelids. In cases of imperfect sight an effort is always being made to hold the eye stationary and to stop the blinking.

Blinking can only be done easily and gently when the upper lid remains downwards. Blinking may be done so rapidly that it does not become conspicuous. The normal eye may blink three or four times in one second. When the blinking is done properly, things are seen continuously and they move with a quick jump. Regarding the objects without blinking is an effort, a strain which always lowers the vision.

It is interesting to observe the eyes of some people when they are asleep. One may note that the eyelids are blinking which prevents the eyes from straining or staring, although the persons are quite unconscious of it.

Blinking is a quick method of resting the eyes and can be practised unconsciously all day long, regardless of what one may be doing. Blinking is very simple, and it will be found that a great deal more reading can be done with blinking than without it, and also the eyes will not be so tired.

Education in Blinking 1. Notice how gently a tiny baby blinks. Now sit in a very comfortable chair. Gently close

the eyes and imagine that you are watching a tiny baby blinking. Then gently open the eyes keeping the sight downwards and gently blink. Make frequent blinks without any effort. Remember that the upper lids should not be raised too high and there must not be any strain, otherwise blinking will turn into winking which is as bad as not blinking.

2. Count the numbers irregularly (as 4, 1, 3, 6, 9, 13, 15 and so forth) and blink for each count. By consciously blinking correctly, it will in time become an unconscious habit

3. Place a mirror before you. Look to the right eye and then to the left, blink on each side. It will keep you aware of wrong blinking.

4. Place your folded fingers on your knees as in the diagram and keep the nails of the hands upwards. See the nails of the right hand and blink, then see the nails of the left hand and blink; while doing so move your head from side to side.

5. Take a wrist watch and put it near your ear. Blink at each tick.

6. Walk and blink at each step.

7. Take two pencils one in each hand. Keep one at six inches and the other at one foot from the eyes on the same line. Look at the top of each pencil alternately you will notice that the lid is raised a little while seeing the distant pencil and lowered while seeing

the nearer pencil. Then close the eyes and imagine as if you are moving your sight from one pencil to another.

Blinking Improves the Vision. Look at the letter 'C' in the chart at a distance of fifteen feet. Now stare and stop blinking; note that the darkness of the letter fades. Now begin to blink and note that the darkness reappears. Take your book. Read without blinking and with blinking and note the difference. You will note that if you do not blink even for a second the letters become blurred, the vision becomes defective, the eyes are strained; and when you do not blink for hours, you will find that the strain is very much increased. This continued strain causes defective vision.

3. **Reading :** Keep the book at a lower level than the chin so that the lids may not be raised. Then blink twice at least in reading one line. Do not read in the sun because the glare reflected from the paper causes strain to the eyes. If one at all wants to read in the sun; he should arrange the book in such a way that the sun does not fall on the paper. Reading while lying can also be done without any discomfort if one keeps the head raised and blinks frequently. Reading while lying to the side is harmful. Reading while resting the chin and face on the palm of the hand causes strain. It is a great mistake to stop blinking while reading.

4. **Writing :** While writing keep the sight on the point of the pen and move the sight with its movement. A common mistake is to write forward and at the same time to look at the back letters. If one cannot shift the sight according to the pen movement in the beginning,

one may draw first straight lines, then angular lines, big letter and smaller letters. When writing is done rightly, handwriting becomes decidedly better.

5. **Sewing :** Many women suffer from eye strain while sewing or doing needle-work. They generally feel headache after working even for a short time. The mistake they commit is that they keep their eyes fixed on their work and blink at long intervals. They should blink frequently and move the sight with the movement of the needle. If the needle comes up, the sight also should move up and when the needle goes down to the cloth, the sight should shift to the cloth. This shifting relieves the strain. In machine work and in continuous stitching one should blink frequently.

6. **Spinning :** As you move the handle of the spinning wheel in a circular way, move your body also in a circular way gently, without any effort. In your left hand take the cotton piece. As you begin to spin, move your eyes according to the movement of your left hand. When the hand goes to the spindle move your sight to the point of the spindle, and when you remove the hand towards you, shift your sight towards you. It is a general mistake to keep the sight fixed on the spindle. This staring stops blinking, causes headache and dizziness. Spinning gives good relaxation if done methodically.

7. **Cinema :** Cinematograph pictures are commonly supposed to be very injurious to the eyes, and it is a fact that they often cause much discomfort and the lowering of vision. They can, however, be made a

means of improving the sight. When they hurt the eyes, it is because the subject strains to see them. If this tendency to strain can be overcome, the vision is always improved and if the practice of viewing pictures is continued long enough, many eye troubles are relieved.

HOW TO SEE A CINEMA PICTURE : Sit erect comfortably, keep your upper lids down while raising the chin and blink frequently.

The common mistake while seeing the cinema is to keep the lids raised and stop blinking.

8. Riding : While travelling in a train or riding on horse-back, move your body according to the movement of the train or horse. Do not be stiff. Imagine that the side objects appear to move backwards. To stop this apparent movement of objects is impossible, and the effort to do so may be very uncomfortable. The greater the effort, the greater the discomfort, and is the cause of headache and nausea. When you ride in an elevator, look at one part of the elevator, imagine that it is moving backwards, avoid looking at the floor.

9. Driving: It is interesting to note that people who drive motor cars suffer greatly from eye strain. Taxi drivers are more or less under nervous strain. Many of them, when they have an accident, believe that it was not their fault. The remedy is to use the eyes in such a way as not to produce a stare. Shift your sight from the speedometer to the centre of the road and notice how the distant road in front comes toward you and finally rolls, as it were under the car. Keep up blinking and shifting

from the near point to the distance. Another way is to imagine the near side objects moving backwards, while the distant side objects moving forward. One should keep up blinking frequently. Do not fix the sight on distant objects.

10. How to look at objects? The eyes should see as the ears hear without making any effort. While looking at an object, if it is not clear, do not try to make it clear, but shift your sight to other objects. Remember to blink frequently. It is good to shift the sight from one point to the other of the object regarded. Trying to see objects while moving fastly causes great strain. While in motion, imagine side objects moving backwards. To keep up the imagination of a dot or some other thing, while looking at objects, is very helpful.

CHAPTER III.

SUN-TREATMENT AND EYE-BATH

The sun is a wonderful help in relieving all sorts of discomforts of the eyes. The sun is the best help and, in my opinion, no other method can take the place of the sun-treatment. The sun is regarded as the god of the eyes by the Hindus, and it is a truth that the sun works like a god for the eyes. The eyes of some people become blind or defective after seeing the solar eclipse ; that is because they stare at the sun. Any good method, when practised in a wrong way, may cause harm. I advise every eye patient to enjoy the sun both morning and evening. Our *Rishis* have advised us to offer our prayers daily facing the rising sun. It is also a Hindu rite of worship to throw water on the ground while blinking towards the sun after bath. By facing the sun in a proper manner, the eyes become very bright and shining, attractive and magnetic. The vitality of the eye is greatly increased and no microbe is able to attack the eye. Inflammatory conditions and other discomforts of the eyes are soon cured. In fact, the sun is the "*elixir vitæ*" for eye.

The health of the eye is based on light as the health of the lungs is based on air. The eye is the creation of light. When life first appeared on this planet of ours, it was in the form of protoplasmic cells which had no specific sense organs. It was the action of the environment on the organism which in the course of time made it evolve different organs for its transactions with the

outer world. Thus, the light rays of the sun developed the organ of sight, the vibrations of sound developed the organs of hearing and so forth. It is for this reason that we find that not only light rays of the sun are very beneficial to the eyes, but they are also indispensable for their health and activity. Living beings, which usually live underground like earth-worms, have no organs of vision; even animals which possess eyes lose their vision if they are confined for a sufficiently long time in darkness. Fishes living in dark caves become blind; miners generally suffer from defective eyesight and other inflammatory eye troubles. People, who live in the dark and seldom see the sun, like miners, for example, have always something wrong with their eyes. In the houses where the light is poor many children acquire a dislike for the sun-light. Some of them keep their eyes covered with their hands, or bury their faces in a pillow and do all they possibly can to avoid the exposure of their eyes to ordinary light. Putting these children in a dark room is a blunder. I obtained best results in the cure of these cases by encouraging the patients to spend a good deal of their time out of doors with their faces exposed to the direct rays of the sun. Not only is the sun beneficial to children, but it is also beneficial to adults.

Of course after remaining in a dark room and suddenly going out into the bright light, one feels the change (and if one is at all nervous, the effect of the light on the eyes is magnified, exaggerated. When such persons are afraid of the light or their eyes are hypersensitive to light, they usually obtain immediate relief with the use of dark glasses or an eye-shade. The relief is temporary, and very soon, darker days.

needed. Eye patients who have used eye-shades habitually, are very difficult to cure. Sun treatment, when used properly in all such cases, is often followed by quick results. Many persons really feel photophobia or glare while going in the sun, although their eyes are quite good. That happens because they keep their eye-lids raised and stop blinking. This causes staring which is the cause of the discomfort. Such patients are very easily benefited simply by lowering the eye-lids and blinking while going out.

1. **Sun-treatment with Closed Eyes:** Ask the patient to sit comfortably facing the sun with eye-lids closed. The body sways from side to side, gently and lazily. The eye-balls appear to be moving according to the movements of the body. If the eye-balls move in the opposite direction (which can be seen through the closed eye-lids), ask the patient to move them with the movement of the head. At first there may be slight discomfort which usually disappears in a few minutes. Continue for ten to twenty minutes or longer. Now turn the back to the sun or come in the shade, keep the eyes closed and cover them with the palms for five minutes or longer. Then open the eyes and you will notice the relief at once. By repetition the benefit becomes greater and more permanent. This is the safest sun treatment which can be given to every eye patient without causing any kind of discomfort. To sit in the hot sun for long time causes, sometimes, headache or discomfort in the body. One should at once stop the sun treatment as soon as the sun causes discomfort in the body. It is better to take sun treatment many times for short periods

than at one time for a long period. Do not look at the sun with open eyes.

2. With closed eyes and sun-glass : When the eyes become accustomed to face the sun with closed eye-lids, use the sun-glass. Focus the light on the closed eye-lids, which at first is very disagreeable. The patient continuously moves the body, head and eyes from side to side. The focussed light seems to be moving in the opposite direction. Do not focus the light at one point for more than a second ; otherwise you may burn the part. One should be very cautious in giving this treatment.

If this treatment is given properly, one obtains greater benefit than by merely facing the eyes with closed eye-lids. This treatment is given only for about two minutes at a time. One can give it for more time if the patient does not feel any discomfort.

3. Exposure treatment : Gently lift the upper eye-lid towards the brow, exposing some of the white part of the eye above the pupil. At first, it may be well to shade the eyes from the sun until the patient acquires sufficient control to look down easily, continuously and without strain. With the eyes looking far down, one focusses the direct rays of the sun on the exposed white part of the eye, with a strong convex glass (sun-glass) moving the glass from side to side quickly to avoid the heat of the concentrated sun-light. One needs to caution the patient to avoid looking directly at the sun while the light is focussed on the eye. The length of time devoted to focussing the light on the white part of the eye should never be longer than a few seconds.

The results obtained from this method have usually been very gratifying. When the eyes are inflamed from disease of the eye-lids, the cornea, the iris, the retina, the optic nerve, from glaucoma and other inflammations, the use of the burning glass has been followed immediately by a lessening of the redness and a decided improvement in vision.

Direct sun-light focussed on white part of the eye is beneficial in many cases of blindness with hardening of the eye-ball (glaucoma), or softening of the eye-ball (cyclitis), also in cases of cataract, and of opacities, of cornea and in other parts of the eye.

4. **With open eyes :** Looking at the sun with eyes open is also a very great help to the eyes and is the best way to enjoy the sun ; but one should not take this treatment without a director. Defective eyes should not enjoy this treatment unless they have become accustomed to stand strong sun light with eyes closed. Begin this treatment when the sun begins to rise, and then stronger sun enjoyed by and by. Never take this treatment when the sun is hot or red.

Sway your body, head and eyes from side to side in a gentle way while looking down. Blink frequently. Then gently raise the chin bringing the eyes towards the sun. Do not try to look directly at the sun. While swaying, look to the sides of the sun and imagine that the sun moves in the opposite direction. Another way to look towards the sun is to imagine the nearer objects to be moving in the opposite direction and the farther objects in the same direction. The eyes may be closed every now and then.

It is very important to imagine the objects moving in the opposite direction. If you stop this swing or do not feel, it means you are staring.

5. **Sun treatment for young children :** Hold the child in such a way that the rays of the sun fall on the eyes, and move it continuously in slow, short easy curves, instead of throwing the child rapidly, irregularly and intermittently from side to side. The treatment may be given for five minutes or more. Very useful in trachoma, conjunctivitis and other eye discomforts of the child's eyes.

6. **Sun treatment while walking :** Keep the sight on the ground and walk facing the sun. Imagine the road and side objects moving backwards.

GENERAL DIRECTIONS ABOUT SUN-TREATMENT

1. Do not sit in the sun when it is hot. Morning and evening are the best times for sun treatment. In winter, one can take the sun treatment (first method) at any time.

2. Begin sun treatment with the mild rays of the sun, that is, the mornings and the evenings, and gradually the strong rays of the sun may be taken.

3. Sun treatment, according to the first method described before, can be taken by anybody without any hesitation, but other kinds of sun treatment should not be taken without the presence of an experienced director.

4. While moving the head from side to side, remember

that the eyes should move in the direction of the head. Remember to blink while gazing at the sun.

5. When the sun is not shining, substitute a strong electric light. A 1,000-watt electric light is preferable, but requires special wiring; however, a 200 to 300-watt light can be used with benefit, and does not require special wiring. Sit about six inches from the light, or as near as you can without discomfort from the heat, allowing it to shine on your closed eye-lids as in the sun treatment.

6. After sun treatment it is good to wash the eyes with cold water.

7. The vision should remain clear after taking sun treatment. If there is dimness after sun treatment, it indicates strain. Relieve it by palming and swinging.

8. If you face the sun for five minutes daily, it is sufficient to keep your eyes healthy.

9. All eye patients can take the sun treatment whether they use any medicine or not.

10. Demonstrate that the sun treatment gives immediate benefit in many diseases of the eye.

Before the treatment, take a record of your best vision on the Snellen test card or Reading test types with both eyes together and each eye separately without the glasses. Then sit in the sun with your eyes closed, slowly moving your head a short distance from side to side, and allowing the sun to shine directly on your closed eye-lids. Forget about your eyes; just think of something pleasant and let your mind drift from one pleasant thought to another. Then come to your former place. Before opening your eyes, palm for a few minutes. Then test your vision and note the improvement.

Eye bath

Eye bath is very effective in toning up the eyes and the surrounding tissues. It causes relaxation and helps in improving the eye sight. Taken after sun treatment, it adds to the relief and relaxation. Cold water should be used for eye bath. A weak solution of common salt or *triphalu* water, or Ophthalmo can also be used.

Directions for taking eye bath

1. Fill the cup nearly to its brim and put it against the eye gently. Keep the eyes downwards and go on blinking with both the eyes. Wash each eye for two minutes. Do not keep the eye cup against the eye for too long a time, as that may produce suction which is not desirable. It should be removed and reapplied several times after every 20 or 30 seconds.

2. Whenever you take bath, before drying, dip your hands in the bowl (palms upwards and cupped), and raise them full of water to within two inches of your eyes. Then splash the cold water on your eyes smartly, but not violently. Repeat this about twenty times, then dry the body and the eyes. It is a very good thing to do whenever the eyes feel tired.

3. Fill a basin with cold water. Dip your face. Keep the eyes open and blink. Take out the face to breathe. Repeat ten times or more. After removing the face from water each time, you may look at the sun with open eyes for a few seconds and again dip the face in water. The sun rays do not harm the eyes; because there is a layer of cold water in front of the eye and the heat rays are soon absorbed by cold water.

CHAPTER IV

RELAXATION METHODS FOR THE CURE OF IMPERFECT SIGHT

In the previous chapter, I have explained how to use the eyes. Unless one is able to learn the right ways, it would be impossible to get permanent cure by relaxation methods.

PALMING

Most patients are benefited by closing the eyes. Every one must have noticed that when the eyes are tired, closing the eyes for a moment clears the vision and a kind of relief is felt in the eyes. But as some light still comes through the closed eye-lids (move your hand before the closed eyes and you will notice the movements of the hand), a still greater relief can be obtained by excluding this light as well. This is done by covering the closed eyes with the palms of the hands (the fingers being crossed upon the forehead) in such a way as to avoid pressure on the eye-balls. This practice is called "palming." The diagrams show the right and wrong ways of palming

But even with the eyes closed and covered in such a way as to exclude all light, the mind thinks some familiar or unfamiliar objects, interesting or uninteresting stories, natural or un-natural, seen or unseen scenes. Remember or imagine something perfectly black or

something that has been seen perfectly or clearly, or something pleasant such as a flower, a boat floating in the river, clouds moving in the sky etc., and let the mind drift from one thought to another. Some patients like to remember the black letters of the chart. Familiar things seen frequently as a hammer by a carpenter, a brush by an artist, a knife by a surgeon are better remembered than letters. Little girls like to think of their dollies. Mothers like to remember their babies.

How to Drift the Mind

Suppose, you imagine your pen. Move your thought from one end to another. Do not try to imagine the pen as a whole at a time. If you imagine a baby, drift your thought from one eye to another, then to the nose, the mouth and so forth; do not try to imagine the face as a whole at one time. The same method should be followed while imagining the scenes, stories, etc. A general mistake is that people try to imagine the object as a whole at one time. If you imagine π , drift your mind from one end, go through it from one point to another and reach the other end. Then imagine the half moon like this 'v' from one end to the other and you will notice that the dot moves in the opposite direction. If you think of the right end, then the dot moves to the left, and if you think of the left end, then the dot moves to the right.

Objects to be imagined

1. Remember a white cat, dog or hare and imagine that you are pouring black ink or black dye over it.
2. Imagine a black snake, drift your mind to right and left according to the curves which it is making,

You will feel that your eye-balls seem to be moving right and left.

3. Imagine branches of trees moving in the wind, waves flowing in and out in the sea; travelling in a rapidly moving train and while looking out of the window the scenery observed seems to be moving backwards. While driving a motor car, the driver imagines the road moving towards the car. If one makes effort to see things stationary, headache, eye pain or some other discomfort may be felt.

4. Recall the face of your child, wife or friend, a certain picture, the odour of a rose, or the tune of some song you like. Imagine as if you are singing or playing on an instrument or you are drawing a small picture of a house or a dog.

5. Drill of F—There is a letter F on the test card. Imagine that F stands at attention like a soldier and is perfect black. Now, he starts his drill. His two arms are pointed to the right when he begins. Imagine the arms moving to the left and back. Then one arm is pointed to the left and one to the right and F becomes a T! Both arms are then stretched up forming a Y.

6. Hear some story, music or gramophone, etc. One patient was benefited by hearing the story of a black ant while palming. This black ant came out of the dark soil and climbed up the stem of a beautiful rose. It was slow work with the ant, but it kept on climbing, going on to, the extremity of the first branch and then to another crawling to the extreme tip of every leaf until finally it located the flower. It crawled with great labour over the petals until it found deep down

in the centre of the rose a little white cup filled with honey. The patient could picture the ant carrying off some of the honey, crawling to the top of the flower and then down back to the stem, finally meeting another ant on the ground, with whom she had a short talk with much gesticulating of heads and feet. Then the second ant started off on the same journey. The patient, while palming, listened very attentively to this talk, which was drawn out for seven minutes.

7. Imagination of white:—Take your book in your hand and look at the white spaces in between the lines of letters. Now palm and imagine that there is a thin white line beneath each line of letters and that it is whiter than the margin of the page or the rest of the white lines. Imagine that you have a pot of white paint and a fine pen and that you are drawing a white line beneath each line of letters or you are drawing white lines on a black board.

8. Imagination of black—Regard a black spot on a white wall or on a piece of paper or the chart. It is easier and more helpful to regard a small black spot. Now palm, and remember the spot. Do not make an effort to look directly at it, but drift your mind from its right to left and left to right, and imagine it to be moving all the time. To remember the black spot stationary is impossible. The attempt to make the spot stationary always produces pain and lowers the vision. Imagination of black objects causes a great relaxation.

It is impossible to see perfect black unless the eyesight is perfect; but some patients without difficulty

can have vision of black deep enough to improve their eye-sight, and as the eye-sight improves, the deepness of the black increases. Patients, who fail to see even approximate black when they palm, state that instead of black they see floating clouds of grey and flashes of different lights. In some cases the black will be seen for a few seconds and then some other colours will take its place.

Successful imagination of black in these more difficult cases usually requires the practice of other methods for improving the sight described in succeeding chapters. Many patients may be benefited by the memory of a black spot. They are directed to look at the black spot at a distance at which the colour can be seen best, then close the eyes and remember the colour. Repeat until the memory image appears to be as vivid as the seen. Then palm and remember the black.

9. Imagination of 'O'—A patient was asked to imagine 'O' while palming; but while remembering 'O,' he felt headache and when he removed the hands his vision did not improve. I wondered why his sight did not improve, but I understood when he said, "I did what you asked me to do. You told me to remember the letter 'O'; I concentrated on it and tried hard not to remember anything else." "You did not understand me," I said. "I did not wish you to concentrate on the letter 'O'. I asked you to remember the blackness of it, and see or imagine one part best at a time." He tried again, covering his eyes with his hands, and I said to him, "Remember the letter 'O' as you saw it, but first remember the top. Now what happens to the bottom?" "It fades from black to grey," he said.

Now imagine the bottom to be blacker than the top. "Now the top fades from black to grey," he said. In a few minutes, I asked him to remove his hands from his eyes, and to look at the card. He saw more lines and the pain had ceased.

Practice of Palming with the Chart

1. Keep the Snellen's eye testing chart at ten feet distance. If you are unable to see any letter of the chart at this distance, then reduce it. Now test your sight and read as much as you can.

Sit in a comfortable chair, rest your feet and legs on a stool which is as high as the seat of your chair, and tuck a pillow under each elbow. Gently close the eyes and palm. Have a pleasant thought for five minutes.

Then remove the hands, raise the chin, keep the lids downwards. Now open the eyes, blink, read the letters. Note that the letters become blacker and more letters can be read. When this clear vision begins to become dim, close the eyes again in the same way. Again, open them and read the chart letters, blinking on each letter. Keep this practice for half an hour or more. Practise both morning and evening. Bad cases require practising four or five times a day. Do not practise palming while standing. Gradually increase the distance of the chart.

2. Palm comfortably for five minutes or more. Close the eyes for a second or more after reading each letter.

3. After palming, open the eyes and look at the space on the left side of the letter and note its appearance; in the same manner, look at the right side of the letter, then read it.

4. If one eye has good sight and the other defective, after palming, first read with the better eye and again palm. Then read the test card with your worse eye and then palm. If both the eyes are defective, practise with both eyes open.

5. Before palming, have sun treatment, then come in the shadow and palm for five minutes or longer. Then read the chart letters.

6. Sit on a chair, palm and rest the elbows on the table. Or lie down, palm and tuck the pillow below the elbows. Then practise on the chart. While reading the letters, see the white background of the letter and note the black portion, the letter will become blacker itself. Read each letter in the same way.

7. Practise in the same way on the reading test card if the near sight is defective.

Time for Palming

Palming may be practised at any time. To improve the vision, morning time is the best; but practise palming four or five times in the course of the day whether with the chart or without it. It will give you relaxation for the whole of the day. Bad cases require the practice of palming five to ten times a day. Palming before going to bed induces sound sleep. Whenever you feel your eyes tired or you are excited or feel headache or want to remember something, just palm for a few minutes. One should not practise palming with the chart to improve his sight when there is any disturbance of the mind or the body, such as fatigue, noise, hunger, anger, worry, or depression. These conditions make successful palming difficult.

Children should practise before going to school, or at the beginning of the school work. This will keep their mind at rest and they will be able to follow the lessons easily.

The longer you palm, the greater the benefit to your vision. Palm for two minutes, then for four minutes, six and so on, until you have palmed for fifteen minutes. Notice the improvement gained in fifteen minutes has been greater than that in four minutes.

DEMONSTRATIONS

Palming improves the sight:—1. When both eyes are closed and covered with both hands in such a way as to exclude all light, one does not see red, blue, green or any other colour. In short, when palming is successful, one does not see anything but black, and when the eyes are open, the vision is always improved.

2. Imperfect memory prevents perfect palming and the vision is lowered. Remember a letter 'O' imperfectly, a letter 'O,' which has no white centre and is covered by a grey cloud. It takes time; the effort is considerable and, in spite of all that is done, the memory of the imperfect 'O' is lost or forgotten for a time. The whole field is a shade of grey or of some other colour, and when the hands are removed from the eyes, the vision is lowered.

3. When a perfect letter 'O' is remembered, palming is practised properly, continuously and easily and the sight is always benefited.

4. When the imagination is not natural and perfect and an effort is made to improve the imagination, the

eyes are staring, straining, trying to see. When no effort is made, the palming becomes successful and the vision is benefited.

Practice with ॐ Chart—1. Place the chart at five feet distance or from where you can see it best. Sit comfortably and palm. Imagine the circle around ॐ and at the same time drift your mind from one part of the circle to another. While remembering the circle in this way, you will notice that as you move your vision in a circle, ॐ also appears moving. Do not make any effort to visualise ॐ. Let the imagination of ॐ come itself, without any effort.

2. On ॐ there is a small arc above which there is a circular dot ". Shift your attention from one corner of the arc to the other. When you will shift the attention to the right corner, the circular dot will be imagined to be moving to the left and *vice versa*. Do not try to see the arc as a whole and at a time. Let your mind drift from one corner to another.

Practise in this way for ten to fifteen minutes and then notice that your sight improves, your eyes feel restful and relieved. All pain has subsided. But if you feel any heaviness in the head or the eye-balls while palming and practising the above methods, then it is a definite proof that you are straining unconsciously and consequently not practising properly. You may give up the practice at that moment and try at some other time.

CHAPTER V

METHODS OF RELAXATION

CENTRAL FIXATION

In Sanskrit, Central Fixation is called *TRATAK* and since the Vedic age, *Tratak* is practised ; but many persons practising it develop defective sight and inflammation of eye-ball. This is because central fixation is done in a wrong way. Such persons fix up their sight on one point of the object or in between the eye-brows with strain and without blinking for a long time. Such kind of practice is the highest stage of central fixation, which comes automatically without effort or strain when the mind is highly developed or spiritualized. As some patients feel difficulty in practising central fixation, I have explained systemetic exercises from the very beginning, and in such a way that the patients would feel central fixation quite easy to practise.

GENERAL INFORMATION

Q. What is Central Fixation ?

- A. When the normal eye sees a thing, it sees only that part of the thing best on which it fixes itself and the other parts not so well. This is called **Central Fixation**. Central fixation when properly used is a relaxation and a benefit. It is interesting to observe that one can not have perfect sight without central fixation. One should not strain and make an effort to obtain central

fixation of a letter, or any object, as by so doing, imperfect sight is very soon apparent. The normal eye shifts unconsciously from one part of an object to another, seeing the part regarded best and other parts worse, and the eye with imperfect sight must acquire this habit by practising it consciously until it becomes an unconscious habit.

Central fixation should not be confused with concentration, which is defined in dictionary to mean an effort to keep the eyes continuously on one point only till the object begins to blur or fade.

Q. Why does the eye see best where it fixes itself?

A. The retina or the image receiving plate has a point of maximum sensitiveness, and every other part is less sensitive in proportion as it is removed from that point. This point of maximum sensitiveness or of best vision is called central pit. It is through this spot that the eye sees best where it is looking.

Q. How can one know that the eye is seeing normally with central fixation?

A. When the sight is normal, the sensitiveness of the central pit is normal and the part seen best is extremely small—a mathematical point which has no area. When the sight is imperfect, from whatever cause, the sensitiveness of the central pit is lowered, and the eye sees equally well, or even better, the part where it is not looking.

Q. What is the cause of this loss of function in the centre of sight ?

A. Mental strain.

Q. How does central fixation help in defective sight ?

A. In all cases of defective sight, sensitiveness of the central spot is more or less decreased, the rays are distorted, and the eye is not able to see best where it is looking. When the sensitiveness of the central spot is improved by central fixation exercises given in this book, the rays are centred, the vision and the health of the eye are improved.

Q. In what diseases is central fixation most helpful ?

A. Very high myopia, where glasses do not improve the vision and reading has become difficult. Hypermetropia, Presbyopia or old age sight, Astigmatism. Early glaucoma and early cataract. Nystagmus and retinal diseases, choroiditis. All cases who feel difficulty and discomfort in reading. Acquired Nightblindness and Colour blindness.

Q. What is Eccentric Fixation ?

A. Eccentric Fixation is the opposite of "central fixation." Patient sees best where he is not looking. For example, if he sees R on the chart B is seen better than R. This condition is sometimes so extreme that the patient

may look as far away from an object as it is possible to see it, and yet see it just as well as when looking directly at it.

Eccentric fixation is the result of staring and is relieved as soon as central fixation is practised correctly.

Q. What is the effect of Eccentric Fixation ?

- A. Eccentric Fixation, even in its lesser degrees, is so unnatural that great discomfort, or even pain, can be produced in a few seconds by trying to see every part of an area three or four inches in extent at twenty feet, or an area of an inch or less at the near point, equally well at one time. This strain, when it is habitual, leads to all sorts of abnormal conditions. The discomfort and pain may be absent in the chronic condition, and it is an encouraging symptom when the patient begins to experience them. In some cases of eccentric fixation, the eye quickly tires and the eye-ball moves at irregular intervals. When these movements are extensive, they resemble nystagmus.

SUGGESTIONS

1. For all patients, it is good to have the following programme of practices morning and evening :—
- a. First have sun treatment. Sit facing the sun with the eyes closed and head covered for 10 to 30 minutes. While sitting in the sun, move the body gently from side to side, like a pendulum

- b. Then come to the shade, wash the eyes and face with cold water, and sit down comfortably for 5 to 10 minutes to practise palming.
- c. Then open the eyes gently; blink and practise central fixation practices.
2. Keep the upper lids downwards and blink gently and frequently.
3. Note that the part of the object regarded is seen darker and clearer.
4. While shifting the sight from one object to another, move the head also along with the sight.
5. Keep the book at such a distance from where you see it best, and subsequently the distance may be increased in myopic patients and decreased in hypermetropic and presbyopic patients.
6. Frequent palming helps central fixation.
7. Feeling of strain or discomfort indicates wrong practice. Stop and practise palming or swinging.
8. Practise first with both eyes and then with each eye separately, covering the other with the palm of one hand, avoiding any pressure on the eye-ball.
9. Before beginning central fixation exercises, test the sight of both eyes and each eye separately, on the Reading Test Type (Fundamentals) at 9 or 12 inches and keep the record.

Practice No. 1.

Keep the sight on the white centre of the letter "O" Fig. 1. Blink gently. Note that the white centre seems to be whiter than the rest of the whole page. Further, note that the blackness of the letter "O" is darker than the other "O" (Fig. 2.) which is within the field of vision. Close the eyes for a second and imagine "O." Repeat till you note the facts. Then shift your sight to "O," (Fig. 2.) and note that now its white centre flashes whiter and its outline darker than the other "O," (Fig. 1.) Close the eyes for a second and repeat ten times.



Fig. 1.



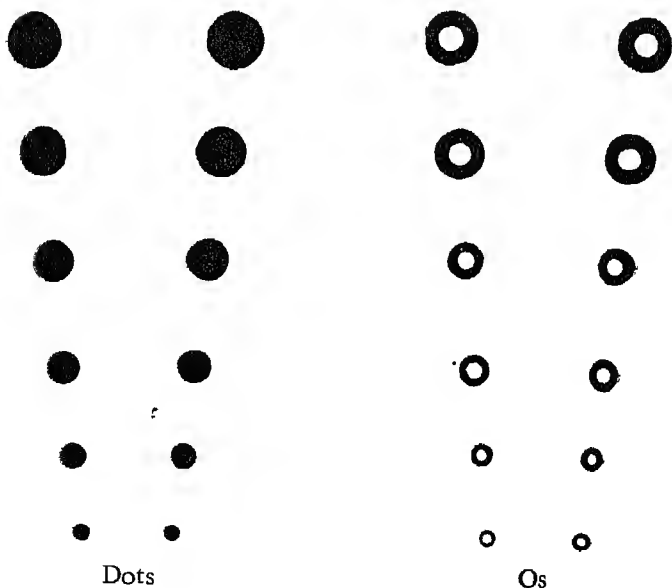
Fig. 2.

Practice No. 2.

Look at the first "O" or dot and note that it is darker and clearer than the "O" or dot which is placed by its side. Close the eyes and note that the "O" or dot is clearer and darker than before.

Now look at the next "O" or dot placed by the side of the first one, and practise in a similar way.

Then practise on the smaller pairs. Should the bigger dots and Os distract the mind, they may be covered.



Practice No. 3.

Practice of central fixation on ॐ is very useful because one does central fixation on thick and thin outline of the character.

(a) Keep your sight at the point where ॐ begins and note that this portion of ॐ is seen darker than the rest of ॐ. Move your sight gradually on rest of ॐ, noting all the time the portion of ॐ seen becomes darker, thus making the whole character ॐ of darker shade.

Close the eyes, imagine ॐ as you did with the eyes open. Repeat ten times with both eyes opened and closed.

(b) There are angular lines all around. Move your sight from one end to the other of one line and note that the line seen is the darkest. Close the eyes and imagine as instructed. Repeat the same with other lines.

(c) There is a small dot above ॐ on the arc ॐ. With each blink, shift your sight from one end of the arc to the other end.

Note that the black dot seems to be moving in the opposite direction. Close the eyes ; move your sight on the arc in your imagination and note the movement of the dot. Alternate with opened and closed eyes.

OM CHART

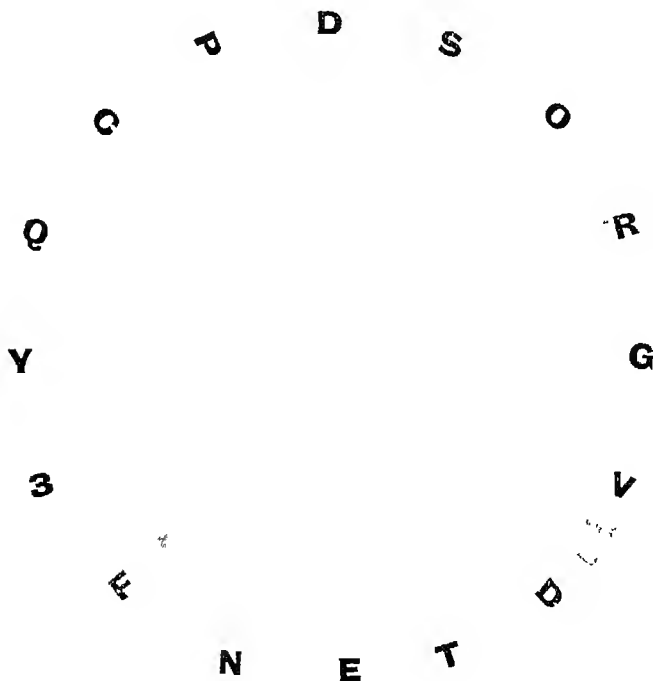


This ॐ chart for eye exercises was found on *Bhojpatra* leaf in Kashmir.

Practice No. 4.

This is the dial chart of central fixation. Look at one letter and note that it is blacker and clearer than all the other letters. Close the eyes for a moment, then open the eyes and shift your sight to the next letter. Finish all the letters.

If you are able to imagine the letter darker in a moment, you can shift your sight to the other letters rapidly.

Dial Chart

Practice No. 5.

This small C chart is the pocket size of the full Snellen Eye Testing Chart.

While practising central fixation, keep your sight on the white portion either inside the letter or at the side of the letter.

1. Look at R and note that R seems to be darker than B. Close the eyes and imagine R. Open the eyes and note that R seems to be darker than before. Repeat three times.

Then move your sight to B, and note that B seems to be darker than R. Close the eyes and imagine B for a moment. Open the eyes and repeat three times.

Similarly, practise on smaller letters, comparing one with the side letter.

Practise at 9 or 12 inches, then gradually increase the distance to two feet.

2. When the long sight is defective, take the Snellen eye testing chart of full size and begin to practise at 2 feet distance to 10 feet or more.

Look at the top of the letter C and see the bottom of C worse. Then look at the bottom of C and see the top of C worse. Close the eyes and imagine C in a similar way. Then open the eyes and look at other smaller letters in a similar way. The smaller the letter

regarded in this way, the greater the relaxation and the better the sight.

When it becomes possible to look at the bottom of a letter and see the top worse, or to look at the top and see the bottom worse, it becomes possible to see the letter perfectly black and distinct. At first, such vision may come in flashes. The letter will come out distinctly for a moment and then disappear. But gradually if the practice is continued, central fixation will become habitual.

3. Place the big C chart at 1 to 3 ft. distance. Move the sight on the black part of 'C' from one end to the other. Note that the part of 'C' regarded seems to be blacker than the rest of C. Close the eyes for a few seconds and imagine C. Again open the eyes and practise in the same way. Repeat 3 times.

Then look at the next letter R, moving the sight on the vertical line of R from one end to the other, then on the upper portion and so on, noting that the part of R regarded seems to be blacker or darker than the rest part of R. Close the eyes for a few seconds and then repeat 3 times. Similarly practise upto 2, Q, O, G, D, E, C.

Gradually increase the distance of the chart to 10 ft. or more.

60 FEET

C

30 FEET

R B

20 FEET

T F P

15 FEET

5 C G O

10 FEET

4 K B E R

8 FEET

3 V Y F P T

6 FEET

2 O C O G D O C

3 FEET

R Z 3 B 8 S H K F O

2 FEET

F T V V P E C O O B R K 5 6

Snellen Eye Testing Chart, Pocket size.



Practice No. 6. White Line.

The white space in between the lines of print is called white line.

(a) Keep the booklet upside down so that the eyes may not try to read it. Move your sight from one end to the other of the white line. Blink once or twice in seeing each white line. Finish the whole page and close the eyes. Imagine as if you are moving your sight on the white lines or as if you are painting white lines on a black board with white paint and brush. Again open the eyes and repeat 5 times.

(b) Keep the booklet in the right position. Ignore reading. Move the sight on the white line and note that the letters and words above the regarded white line are darker and clearer than the rest. In this way, you may imagine each letter or each word blacker than all the other letters and words. Close the eyes for a moment after finishing each line.

(c) Read the white line page with gentle blinking, noting the word or letter regarded seems to be blacker or darker. Close the eyes or a moment after reading each line.

WHITE LINE

The imagination of white line between the lines of print helps in relieving most eye troubles. It gives a restful, pleasant feeling to all the nerves of the body when the thin white line is seen, remembered or imagined. A great many people are very suspicious of the imagination of the white line, and feel or believe that things imagined are never true. The more ignorant the patient, the less respect he has for his imagination.

The ability to imagine the white line is acquired by the memory of white snow, white paint or any thing perfectly white, with the eyes closed for a part of a minute. Then, when the eyes are opened for a second, the white-lines are imagined or seen much whiter than before. One needs to be careful not to make an effort to regard the black letters when the white line is remembered.

When the white line is remembered with the eyes closed and with the eyes open, the black letters are read without effort or strain. The thinner the white line is imagined, the whiter it becomes and more perfectly the letters are read. Of course, the eyes have to shift from the thin white line to the letters in order to see them, but the shifting is done so rapidly, so continuously, so perfectly that the reader does not notice that he is continuously shifting.

While reading, do not look at the letters, but at the white line or white spaces between the letters and words. It is a general belief that when we read we are looking at the letters. When one reads with the perfect sight, one does not look at the letters, but at the white spaces. Look directly at a letter and concentrate your mind and eyes on one part of the letter. You soon feel an effort or strain and the vision is lowered. And if the vision is not lowered, that means that you are unable to keep your attention fixed on the same part of a letter for a continuous length of time. When one plans to look at the white spaces and while reading feels discomfort or pain, it means that the eyes are not directed on the white spaces as the reader may imagine.

*Practice No. 7.**Reading of Fundamentals.*

First move your sight on the white lines in between the lines of fine print from No. 8 to 15. Now read from No. 1, blink gently and frequently and move the head a little along with the sight. Close the eyes for a minute after reading each fundamental.

The enclosed card having a circular hole in it may be used for reading. Hold it flat against the reading matter and move it along quickly or slowly as may suit the temperament of the reader.

Read it at a convenient distance, then gradually decrease the distance to 6 inches if you are presbyopic or hypermetropic and increase the distance to 9 or 12 inches if you are myopic.

Fundamentals

By

W. H. Bates, M. D.

1. Glasses discarded permanently.

2. Central Fixation is seeing best where you are looking.

3. Favorable conditions: Light may be bright or dim. The distance of the print from the eyes, where seen best, also varies with people.

4. Shifting: With normal sight the eyes are moving all the time.

5. Swinging: When the eyes move slowly or rapidly from side to side, stationary objects appear to move in the opposite direction.

6. Long Swing: Stand with the feet about one foot apart, turn the body to the right—at the same time lifting the heel of the left foot. Do not move the head or eyes or pay any attention to the apparent movement of stationary objects. Now place the left heel on the floor, turn the body to the left, raising the heel of the right foot. Alternate.

7. Drifting Swing: When practicing this swing, one pays no attention to the clearness of stationary objects, which appear to be moving. The eyes wander from point to point slowly, easily, or lazily, so that the stare or strain may be avoided.

8. Variable Swing: Hold the forefinger of one hand six inches from the right eye and about the same distance to the right, look straight ahead and move the head a short distance from side to side. The finger appears to move.

9. Stationary Objects Moving. By moving the head and eyes a short distance from side to side, being sure to blink, one can imagine stationary objects to be moving.

10. Memory. Improving the memory of letters and other objects improves the vision for everything.

11. Imagination. We see only what we think we see, or what we imagine. We can only imagine what we remember.

12. Rest. All cases of imperfect sight are improved by closing the eyes and resting them.

13. Palming. The closed eyes may be covered with the palm of one or both hands.

14. Blinking. The normal eye blinks, or closes and opens very frequently.

15. Mental Pictures. As long as one is awake one has all kinds of memories of mental pictures. If these pictures are remembered easily, perfectly, the vision is benefited.

Reading test type 'Fundamentals'

Practice No. 8.

Reading of photo print

Fine print reading is a benefit to the eye. If you read it daily, your near or reading sight will ever remain perfect and you will be saved from the evil effects—cataract, glaucoma or other retinal diseases—of old age.

If you feel any difficulty in reading it, first take sun treatment for ten minutes, then wash the eyes with cold water and palm for 5 minutes.

When one imagines the white spaces perfectly white, the print becomes very black and legible, apparently of its own volition.

CHAPTER 37

MEMORY AS AN ADJUSTION

[illegible][illegible]

PHOTO PRINT.

CENTRAL FIXATION ON A DOT.

This practice is meant only for those who have good memory and imagination. Its right practice makes the eyes and mind magnetic. The vision is greatly benefited. It is the last stage of Central Fixation, and it is a mistake to practise it from the very beginning.

(a) Keep the dot at about one foot distance from the eyes. Look at the centre of the dot for a few seconds, then close the eyes and remember the dot for a few seconds. Again, open the eyes and note that the dot seems to be darker than before. Repeat till you are able to remember the dot continuously.

(b) If you are able to remember the dot perfectly, you will note the following facts :

1. The memory of the dot is instantaneous. If a few seconds or longer are necessary to remember it, the memory is never perfect.

2. The memory of the dot is continuous.

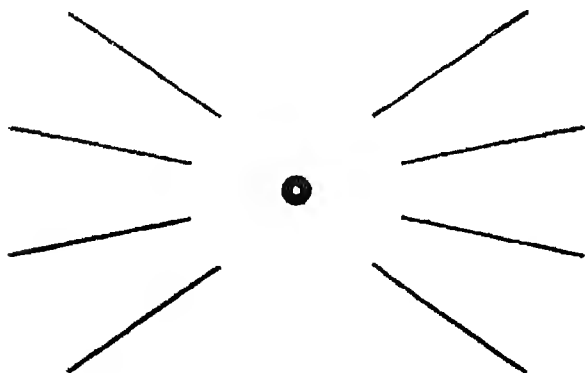
3. In the memory, the dot makes short, gentle movements from side to side or up and down.

Now, open the eyes and keep up the image of the dot in your mind. Remember this dot and look at different objects.

(c) Look at the centre of the dot in the picture with blinking while keeping its image in your mind, in other words, the mind is remembering it, though

MIND AND VISION

the sight is at the dot picture. When the mind will be deeply absorbed in its memory, blinking will stop automatically, the lines around the dot will fade and disappear, and at times the dot will also fade and disappear. At a certain stage, you will note as if the dot picture and yourself are moving with a rapid speed. Do not attempt to check this movement. It indicates perfect practice.



Dot for Tratak.

CENTRAL FIXATION ON SHINING OBJECTS.

PRACTICE on FLAME

Practice of central fixation on the shining object-flame improves eye-sight and mental faculties. In India, it has been practised since long, and has been named as "*Tratak*". To-day also some people practise it, but generally in the wrong way, hence defective eye-sight, inflammations of the eye-lids and eye-ball, headache, etc. are the results. I have come across with several cases who suffered from short sight (myopia) due to mal-practice. It does not mean that the practice is harmful but the wrong way of practising it.

In such cases, consciousness is spread out everywhere, dispersed, running in this or that direction, after this subject and that object in multitude, at the time of practice, which is the chief cause of harmful effects. When such a practice is to be done, one should try to draw back all this dispersed consciousness and concentrate. One, who fails to concentrate, does not get good results ; on the other hand, one, who is successful, makes the eyes and mind perfect and develops occult vision.

GENERAL INFORMATION

The flame has three zones—

1. First zone dim, blackish.

Second or middle zone very bright.

Third or the topmost zone less bright.

Eyesight is to be fixed on the second zone.

2. If the concentration is poor, do not practise Tratak exercise No. 3 of the flame.

3. If concentration is poor and the tears begin to flow while practising, think that some mistake is being done in the practice, while practising.

4. The flame should be at one to two feet apart from the eyes.

5. Practice should be done in a dark, silent and ventilated room.

6. It is good to practise in the morning or bed time.

7. While practising, keep the lids down and blink gently and frequently. Do not stop blinking. When one does the practice with perfect concentration, blinking stops unconsciously and then it is good.

8. Ghee flame is better than the oil flame or candle flame.

9. Before practice, wash the eyes and face with cold water.

10. The practice should not be done when there is headache or any other physical discomfort.

EXERCISE No. 1. Sit comfortably on a stool or the ground facing a swing stand. Place the candle flame at about 1 ft. or 2 ft. distance. The candle and the swing stand are arranged in such a way that the candle flame is seen through the swing stand. Keep the lids down and blink gently.

Now move the body gently and slowly, without jerk or effort, like a pendulum. The movement should not be limited to the neck and head but to the whole body above the hip. Shift your sight from side to side with the movement of the body on the background. Note—

- (a) that the bars of the swing-stand move in the opposite direction; that is, when the body moves to the right, the bars move to the left and *vice versa*.
- (b) that the candle flame moves in the same direction, that is, when the body moves to the right, the flame moves to the right and when the body moves to the left, the flame moves to the left.

After every five or ten movements, close the eyes, continue the body movement, and imagine the candle flame moving with you. After a few days' practice, shorten the body movement to one-quarter of an inch. When the practice is perfect, one feels cooling sensation in the eyes, or one begins to doze or sleep. Heaviness in the eyes and headache or dimness in the vision after the practice are the signs of wrong practice and strain. Under such circumstances, it is better to stop the practice and take the help from some one else.

Mistakes

- (a) Sight may be fixed on the bars or the flame.
- (b) Sight may move in the opposite direction to that of the body, that is, when the body moves to the right, sight may move to the left.
- (c) One may keep the lids raised and stop blinking.
- (d) Imperfect imagination of the flame.

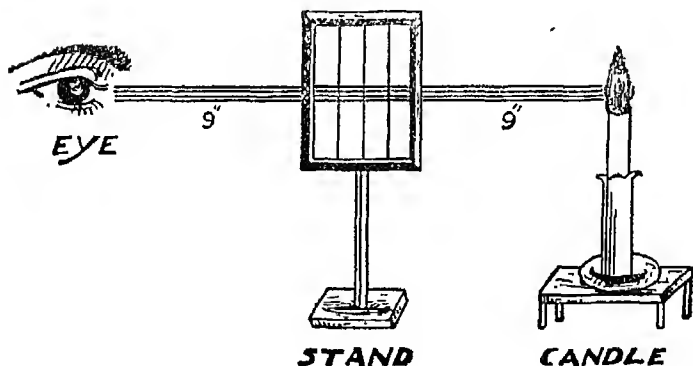
EXERCISE No. 2. Remove the swing-stand and bring the candle little closer. Move the body in one inch, from side to side, moving the sight from one side of the flame to the other. Imagine the flame to be moving in the opposite direction. Close the eyes and imagine the flame moving.

EXERCISE No. 3. This is the practice which one wants to practise from the very beginning. When it is practised in a wrong way, it proves harmful; but can be practised safely without any harmful effect by those who can practise exercises No. 1 and 2 successfully. One has not to fatigue oneself at first by long concentration. It is only as the concentration becomes normal that one goes on for a longer and longer time.

Sit before a candle flame as in No. 2. Move the body in one quarter of an inch and gradually shorten the movement to imperceptible one. The sight is fixed on the second zone of the flame. Imagine the flame burning at the heart centre or the centre between the

eye-brows, though the vision is on the flame. If you are interested in an idea or word or name, imagine that shining in the flame and subsequently imagine that at the heart or brow centre.

When you are able to imagine the flame at either centre, blinking stops unconsciously without effort, sight is fixed on the flame, tears begin to flow. This is the right and centred concentration.



CENTRAL FIXATION ON MOON

Fixation of sight on the moon is also thought very useful for the improvement of sight, but malpractices have proved very harmful in many cases.

EXERCISE No 1. Stand facing the bright moon, move your body gently from side to side, shifting the sight from one side of the moon to the other. Imagine the nearer objects—trees, buildings, etc.—coming in the field of vision, to be moving in the opposite direction and the moon in the same direction.

Close the eyes at intervals and imagine the moon shining and moving.

Mistakes :—

1. Fixing the sight on the moon.
2. Imagining the moon stationary.
3. Keeping the staring gaze.
4. Practice on dim moon.

EXERCISE No. 2. Walk in the moon light facing the moon. Imagine as if the moon is moving with you and the road and other objects are moving in the opposite direction.

When there are clouds, imagine the moon to be running through clouds. It would be a mistake to stop the movement of the moon.

EXERCISE No. 3. Stand or sit, move your body in one quarter of an inch and shorten the movement to imperceptible one. Fix the sight on the moon, blink and imagine the moon shining at the heart centre at the same time or imagine the Divine image in the moon. When successful, it seems as if the moon is becoming brighter and coming nearer and nearer to you. Close the eyes at intervals. Perfect practice gives cooling sensation in the eyes.

CENTRAL FIXATION ON SUN

The sun plays an important part in improving the vision both internally and externally. The Vedas and the Upanishads regard the sun as the god of the eyes. Our *Rishis* tell us to face the sun morning and evening for worship. By facing the sun, the eyes become very bright and shining, attractive and magnetic. The centre of vision becomes acute. The vision becomes perfect. The vitality of the eye is greatly increased and no microbe is able to attack the eye. Inflammatory conditions as trachoma, conjunctivitis, etc. are soon cured.

By extracting the light rays of sun through the eyes, one can easily awake the Solar plexus (*Suryachakra*) which is at the heart centre. Then the *Suryachakra* enlarges and opens man's dark and limited being into a luminous and infinite consciousness. By the right use of our nature, a luminous power proceeding from the Father of all existence (Sun) one reveals in himself the Divine *Purusha*, of whom all beings are manifestation. The seer prays to Surya to cast the rays into right order and relation and then draw them together into the unity of revealed truth. The result of this inner process is the perception of the oneness of all beings in the Divine Soul of the Universe.

METHOD

In the beginning, practise for a few minutes and then increase the time by and by according to the progress.

Sit comfortably facing the morning sun when the sun is not red. Keep the eyes open on the ground. Move the

body gently from side to side. Now raise the chin and the eye-lids till your sight reaches the sky about one yard below the sun. You should blink gently and frequently. The eyes should not be opened widely. You will note the following:

- (a) The sun is constantly seen.
- (b) The front objects as trees, buildings, etc. move in the opposite direction, that is, when you move to the right, the objects appear to move to the left and *vice versa*. This kind of imagination checks strains and gives relaxation.
- (c) The rays entering through your eyes and reaching the heart centre.

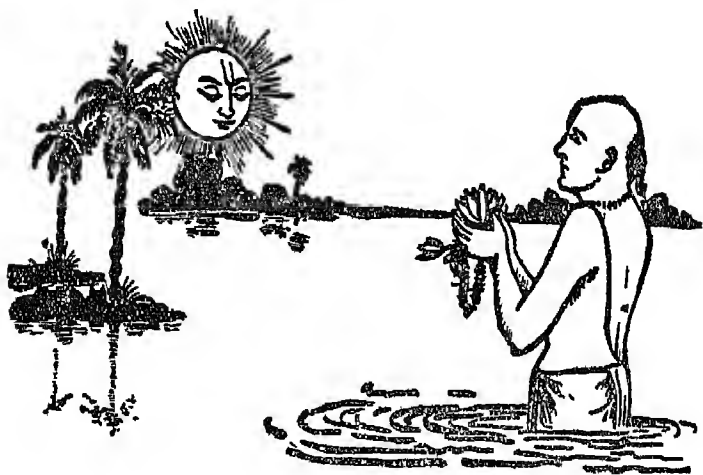
What is not to be done ;

- (a) Looking at the sun directly and staring.
- (b) Eyes should not be opened widely.
- (c) Movements of the objects should not be forgotten till the mind is absorbed in thoughts.
- (d) Blinking should not be forgotten.

The vision should remain clear after taking the sun-treatment. If it is dim or some colours come before the eyes, practise relaxation methods after the sun treatment to improve the defective vision.

If you want to improve the internal vision, recall the image of your deity and imagine that face in the sun

shining brightly, and the rays falling on the heart centre. If your imagination will be perfect and there will be true aspiration, the rays will begin to awake the *Suryachakra* and the eye will fix up on the sun automatically; the movement of the body will be imperceptible. At first, it will be faint, but gradually it will become brighter, the rays will become sharper and wider. You will begin to feel the same deity in this *Suryachakra* also. Your heart will be full of light, the tears of love will begin to flow and the rays of joy will be effulgent. The more the *Suryachakra* will be brighter, the more purification will take place. To remove the defects, cast the rays on the particular part.



CHAPTER VI

METHODS OF RELAXATION

III. SHIFTING AND SWINGING

Shifting and swinging are intimately connected with each other. They will be defined separately, but they are included in the same practices.

Shifting: Moving the eyes from one point to another is called shifting. If you move your hand from one place to another, you are said to be shifting your hand. In the same way, if you look at 'C' on the chart and then see another letter, it means you are shifting your eyes from one point to another. When the normal eye has normal sight, it is always shifting from one point to another. This is true of the eyes closed as well as of the eyes opened. Shifting with the eyes open may be from side to side, from above downwards, or in any other direction. Horizontal shifting is done more often than other forms of shifting. The eye is never stationary. When the sight is imperfect, the shifting also is imperfect, and may be jerky resulting in discomfort of the head, of the eyes or of some other part of the body.

In order to explain the proper way of shifting, which keeps the sight continuously normal, it is helpful to demonstrate the wrong way. Let the patient look straight at one point or at one part of the smallest letter on the chart which can be distinguished. When

he does this for a few seconds, he usually feels that an effort is being made, and when the effort is continued or increased, much discomfort is felt and the vision is lowered. The patient should be made to find for himself that concentration cannot be continued for long and that it is impossible for the eyes or the mind to see perfectly, remember or imagine perfectly, when an effort is made to concentrate. When the eyes shift from one point to another, a feeling of relaxation soon follows and the vision improves. When the eyes do not shift from point to point, it can always be demonstrated that the vision becomes worse and that the mind, the eyes and all the nerves of the body feel uncomfortable and may be conscious of an effort or strain.

To constantly stare at one point of a letter or any other object is wrong, because it lowers the vision and causes discomfort to the eyes. Perfect sight is not possible unless the shifting is continuous. When the eyes stare and do not move, or when an effort is made to imagine letters or other objects to be stationary, the shifting stops, and the vision always becomes imperfect. It is necessary for those who have imperfect sight, caused by a stare or strain or effort to see, to learn to shift in such a way as to benefit their vision. When shifting is practised rapidly, easily and continuously, the symptoms of imperfect sight and other symptoms caused by strain are relieved at once.

To shift rapidly, look up for a moment and then look down quickly, rest the eyes by closing them for part of a minute, then repeat looking up and down quickly. When the eyes move up, the test card or other stationary objects move down. When the eyes move down,

stationary objects or the test card move up. Many people say that they can see a letter with normal vision at fifteen feet or further distance without moving the eyes, and without imagining the letter to be moving. The movement of the eyes in such cases is so rapid that it is not noticeable.

There are various ways of forming the habit of shifting, and one has first to form a conscious habit. According to the measure of the shift of the eyes, the shifting may be long or short. In the long shift, the eyes move an inch or more; in the short shift, the eyes move less than an inch. Shifting a long distance is readily accomplished by moving the head in the same direction in which the eyes move. By and by the long shift can be shortened to one quarter of an inch or even less. Various methods of shifting will be described with the practice of swinging.

The short shift is more difficult, but when it is successfully practised, one obtains greater amount of relaxation than can be obtained from the long shift. A very long shift—as much as three feet or more—is helpful to those who cannot accomplish a shorter one. When the patient is capable of a short shift, the long shift lowers the vision. In a very short shift, it is not always easy to be conscious that the eye really moves. When the shifting is slow, short and easy, the best results in the improvement of vision are obtained. Benefit can be obtained from shifting while the patient is seated; but more benefit will be obtained if shifting is practised while the patient is standing and moving the head and shoulders, rather the whole body, a very short distance from side

to side. Shifting the whole body makes it easier to shift a short distance and that may explain why this method is the best.

Wrong Ways of Shifting : 1. To turn the head and the body in a direction opposite to that of the eyes, that is, to turn the head to the right while the eyes are turned to the left, or to turn the head to the left while the eyes are turned to the right. Or to turn the body to the right while the head and the eyes are turned to the left, or to turn the body to the left while the head and the eyes are turned to the right.

2. To keep the sight fixed on an object while the head is moving.

3. To move the eyes more irregularly, that is, a longer or shorter distance than the movement of the head.

4. To imagine that the stationary objects do not move in the direction opposite to that of the eyes and the head.

5. To imagine that all the objects or letters seen are of equal clearness.

6. To stop blinking.

Right Way of Shifting : The right way to shift is to move the eyes from one point to another slowly, regularly, continuously, restfully, easily, without effort, without trying to see. The normal eye with normal sight has the habit of always moving or shifting, usually an unconscious habit. When, by practice, the eye with

imperfect sight acquires the conscious habit of shifting, the habit will become unconscious afterwards. It often happens that, when one consciously or intentionally shifts in the wrong way, a better knowledge of the right way to shift may be acquired. When the eyes are moved to the right, stationary objects should appear to move to the left; and when the vision is good, all objects not regarded are seen less distinctly than those regarded. Blinking is very necessary with each shift.

SWINGING

When the eyes move slowly or rapidly from side to side, stationary objects appear to move in the direction opposite to the movement of the head and the eyes. This apparent movement of the objects is called *swinging*. People with normal vision are not always conscious of the swing. However, when their attention is drawn to it, they can always realise it, and are always able to imagine stationary objects to be moving. A simple example of the swing is that experienced in a moving train. When you travel in a train, which is moving fast, and look out of the windows, you see the telegraph poles and other objects moving in an opposite direction. With every shift, the stationary objects appear to move in an opposite direction. Even with each blink, the objects appear to jump up and down.

It has been proved that the eye gets rest only when it is moving; and when it is moving, it imagines consciously or unconsciously the stationary objects to be moving in the opposite direction. Place your fingers lightly on the closed eye-lids, you will feel the eyes to be moving slowly or rapidly in all directions. The swing

is as essential to men as to animals. The tiger, the lion and other animals move most of the time while they are awake, and are in this way relaxed. The elephant sways his bulky body from side to side, because it rests him. It is always interesting to watch soldiers march, and observe the sway of their bodies in unison with the rhythm of music. A mother, who is busy with her household work, is always grateful for the few minutes of rest and relaxation which she gets when rocking the baby. If the heart stops beating, which is really a sway inside the body, the blood has no longer a chance to flow nor the pulse to beat. If the pendulum of the clock stops, the clock does not tell time.

As has already been said, there is no swing unless there is an apparent movement of the objects seen in a direction opposite to that of the movement of the eyes. Swinging is an evidence that the shifting is being done properly, and when it occurs the vision is always improved. It is possible to shift without improvement, but it is impossible to produce the swing without improvement of the sight. When the swing can be realised with a long shift, the movement can gradually be shortened until the patient can shift from the top to the bottom of the smallest letter in the Snellen test card and maintain the swing.

Shifting may be practised slowly or rapidly according to the state of the vision of the patient. At the beginning, he is likely to strain if he shifts too rapidly; and there will be no swing. The speed can be increased gradually. It is usually impossible, however, to realize the swing if the shifting is more rapid than two or three times a second.

According to the distance of the movement, the swing may be long or short. In the long swing, objects appear to move an inch or more. In the short swing, objects appear to move less than an inch. The long swing relieves eye discomforts and helps one to obtain the short swing. The short swing improves the vision.

Some people have difficulty in practising the swing successfully. They cannot imagine stationary objects to be moving, no matter how much swinging is practised. They feel absolutely certain that the stationary object is always stationary and cannot be expected to move when the body sways from side to side in a long or short movement. It is absolutely necessary that all persons with imperfect sight should become able to imagine stationary objects to be moving. When an effort is made to imagine stationary objects to be stationary, the eyes become fixed or stare at the objects and the swing always fails. A very successful method of teaching nervous people how to imagine stationary objects to be moving is as following :

Let the patient look at the Snellen test card placed on the wall about fifteen feet away from him. When he moves his sight to a point about three feet to the right of the test card, the card appears to move to the left. When the patient is directed to regard a point to the left of the Snellen test card, the card moves to the right side of the point regarded. The greater the shift from one point to another, the wider becomes the swing. By repetition, the patient becomes able to realise that whenever the sight moves to a point to the right side of the card, the card and all other objects move to the left side of the point regarepd.

This method often succeeds even when all other methods fail in realising a swing.

You will fail to realise a swing—

1. When you feel absolutely certain that the stationary object is always stationary and no movement can be expected.

2. When you stare at the objects.

3. When you stop blinking or blink very rapidly.

4. When the background is not prominent. Suppose you stand before a window and practise swinging. If the background seen through the window is not prominent, you may not be able to imagine the bars of the window to be moving in the opposite direction.

5. A common mistake that is made is to turn the head to one side and turn the eyes in the opposite direction while swinging.

Hints For Successful Swing—

1. Do not stare at objects and make no effort to see them. Lazily shift your sight from one point to another without having any idea that you are seeing the objects.

2. The background should be prominent.

3. If one eye is bad, practise first with the good eye.

4. Blink once on each side.

5. Imagine the movement of a pendulum and sway like that.

6. Move your head, eyes and body rhythmically from side to side.

7. While practising swing with eyes open, close them for a minute or two after every five minutes.

SHIFTING & SWINGING PRACTICES

These are seven practices. It is better to begin from the first exercise. Keep the lids and the chin in the right position and blink frequently, while practising.

Practice No. 1. Stand with the feet about one foot apart, facing a window having vertical bars or before a swing stand. Take a long step to the right and note that the bars have gone to the left. Now take a long step to the left and note that the bars have gone to the right. Repeat 50 times.

Practice No. 2. Sit comfortably on a stool or a chair without resting the arms or back before a swing stand. Place two flower pots or some other small objects 3 feet apart on each side about 6 feet away from the eyes. Move your body gently from side to side like a pendulum. When you move to the right, shift your body to the right side flower pot and *vice versa*. Note that the bars of the swing stand move in the opposite direction. Practise ten swings with the eyes open and ten swings with the eyes closed several times.

Then gradually decrease the distance in between the flower pots to 2 feet, 1 foot and six inches, while practising as before.

Practice No. 3. Arrange swing stand and flower pots as in No. 2. Place an eye chart in between the flower pots. Move your body gently from side to side, shifting the sight from one flower pot to the other. Note that the bars move in the opposite direction and the chart moves in the direction of your body move-

ment. Take care not to make any effort to see the chart.

Practice No. 4. Remove the flower pots. Place the chart at a distance from where you can see 3 or 4 lines of the chart. Arrange the swing stand about 1 foot apart from the eyes in such a way that you can see the chart through it. Sit comfortably and sway the body. Move your sight on the white spaces in between the lines of letters, from one end to the other. Ignore reading of the letter. Note that the bars move in the opposite direction and the lines of letters in the same direction. Repeat with the open and closed eyes for 10 minutes or more.

Practice No. 5. Same as No. 4. Move the sight on the white space below each letter and note that few bars of the swing stand move in the opposite direction and the letter moves in the same direction. Body swing will be according to the width of the letter. Then swing with the closed eyes imagining the letter swinging. Then move on the white space below the next letter. Finish six or seven lines of the chart from 3 feet distance. Then gradually increase the distance of the chart to 10 or 20 feet by 3 or 4 inches each time.

Example. The chart is at 3 feet distance and swing stand at 1 foot distance from you, and you are able to read 4 lines of the chart (S, C, G, O). Move your sight on the white space below R of the second line without trying to see it. Note R becomes darker and moves a little in the same direction. Do 5 times, then close the eyes and imagine it moving or swinging.

Open the eyes and practise on B, and so on. Now suppose, you are able to practise on the 5 or 6 lines, increase the distance of the chart by 3 inches each time, practising on the 5th or 6th line. Other upper lines may be covered.

Practice No. 6. Place the test card at a distance where only the large letter C at the top of the card can be distinguished. Stand with the feet about 9 inches apart and sway the body from side to side. When the body sways to the right, raise the left heel, put the weight of the body on the right leg, and look to the right of C about 4 inches away. When the body sways to the left, raise the right heel, put the weight of the body on the left leg and look to the left of C 4 inches away. Note that C appears to be moving in the opposite direction. Now gradually shorten the sway and look to the right and left of C, 4, 3, 1, $\frac{1}{2}$ inch away, noting all the time opposite movement of C. The letter appears blacker when the movement is shorter. Repeat with the open and closed eyes.

Practice No. 7. Place the chart at a distance where you are able to read 5 or 6 lines. Sit comfortably on a stool or a chair without resting the arms and back. Have a short movement of the body from side to side, and look to the right and left of each letter as in practice No. 6. Note that each letter becomes blacker and appears to move in the opposite direction. Repeat the practice on each letter with open and closed eyes. The letter appears to pulsate. As the sight improves, increase the distance of the chart. Do not try to make the letters swing by effort. The swing should come of its own accord when the shifting is normal.



Long Swing.

(with open eyes before bars).

Mr. B. L. Rastogi M.L.A., is practising the long swing before the window bars. He suffered from detachment of retina in the right eye and lost the visual power. By the practice of long swing for one and a half months he gained his lost sight.



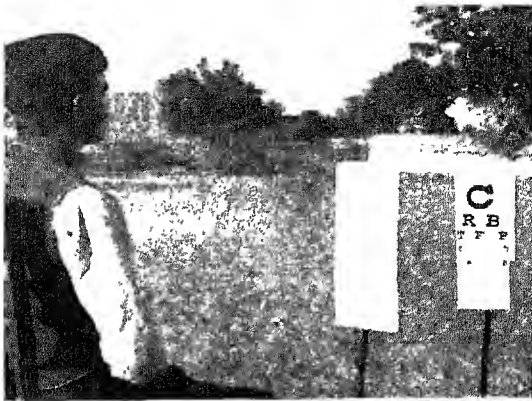
Long Swing.
(with closed eyes.)



Variable Swing

1. Head and eyes in front, finger held in front and to the side.
2. Right way—Head and eyes moving to the same side and not looking at the finger.
3. Wrong way—Head moving to the left and the eyes moving to the right and looking at the finger.

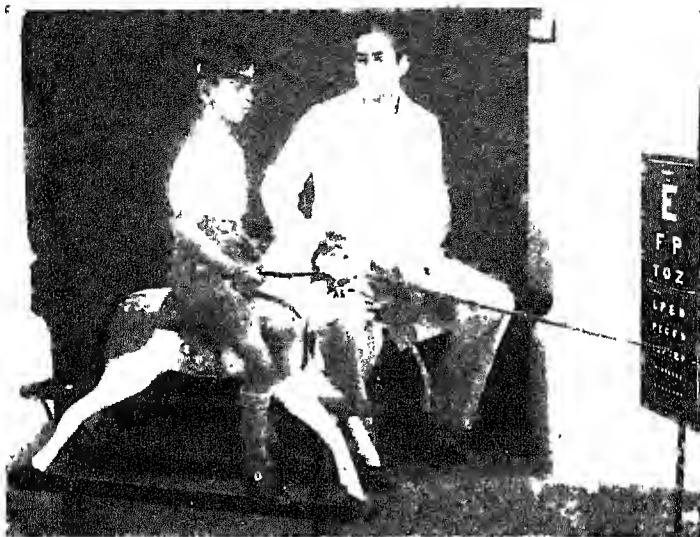
SHORT SWING.



Upper- Back of one eye test card at eight feet, face of the second test card at ten feet place them in such a way that there is a space of four inches in between them Page 127 No 5.

Lower- The Swing stand is at one and a half feet distance in front of the patient. The eye testing card is at five feet distance from the patient, and is placed in such a position that the patient is able to see it through the swing stand Read the exercise No. 5 page 111.

ROCKING HORSE



This boy was blind with the right eye. He is sitting on the rocking horse. The demonstrator directs the boy with a pointer to read the particular letter.



Forehead Swing

1. Eyes closed, head in front, fingers placed on the forehead.
2. Right way—Moving the head to the side while the fingers are stationary.
3. Wrong way—Moving the fingers to the side while the head is stationary.

DIFFERENT KINDS OF SWINGS

Any of the following swinging exercises may be practised at the leisure times or during the course of practices on the chart to get relaxation.

1. LONG SWING

A. Simple Long Swing : Stand with the feet about one foot apart, facing one side of the room, or the Snellen test card placed on the wall of the room. Lift the left heel a short distance from the floor while turning the shoulders, the head and the eyes to the right, until the line of shoulders is parallel with the wall. Now turn the body to the left after placing the left heel upon the floor and raising the right heel. Alternate, looking from the right wall to the left wall, being careful to move the head and the eyes with the movement of the shoulders. When practised easily, continuously, without effort and without paying any attention to moving objects, one soon feels that the long swing relaxes the tension of the muscles and the nerves.

Stationary objects appear to move with varying degrees of rapidity. Objects located almost directly in front of you appear to move with express train speed and are very much blurred. It is very important to make no attempt to see clearly objects which seem to be moving very rapidly.

B. Sky Long Swing: Stand facing the sky with the feet about one foot apart. Sway the body from side to side moving the sight on the sky without making any effort to see anything. Note that nearer objects appear

to move in the opposite direction while farther objects appear to move in the same direction. At intervals of about two minutes close the eyes for a few seconds, sway and imagine the objects moving. One may stretch the arms to the sides like the wings of a bird and then sway. Practise for about ten minutes.

2. UNIVERSAL SWING

Under the cover of a cloth, move the thumb on the tip of your forefinger from side to side about one-quarter of an inch, and move your body gently with the thumb. Call 'one' when you move to the right, and 'two' when you move to the left. Close the eyes. Imagine your legs swinging in the direction opposite to your body. The floor on which the legs rest is also swinging. The walls of the room also swing when the floor swings. When one part of the building swings, one can imagine the whole building to be swinging. The ground on which the building stands is also swinging. When the ground swings, other buildings connected with it swing. One can imagine the whole city to be swinging, this continent and all other continents on the earth can be imagined swinging. In short, one can imagine not only that the whole world is moving, but also the universe including the sun, the moon and stars. If the direction is changed, strain results. To imagine the universal swing is easy, and some patients soon become able to do it with the eyes open.

3. CIRCULAR SWING

There is one objection to the universal swing, as at the end of the movement of the forefinger to the right

or the left, one has a tendency to stop. This stoppage of the swing can be corrected by the practice of the circular swing, when all objects are imagined to move continuously in a circle. The circular swing can be realised with the eyes closed and differs from the other swings in this that the Snellen test card or other objects appear to move in a circular direction. In the circular swing, the head and the eyes are moved in a circular direction.

Circular swing realised by the movement of the Snellen test card or other objects appear to complete relaxation of the mind and the eyes. Place your thumb on the tip of the forefinger and move it in a circle having a diameter of less than one-quarter of an inch. Move your body according to the movement of the thumb. While doing it notice that the thumb moves on the forefinger and the forefinger on the thumb, each moving in a direction opposite to that of the other. When done correctly, you will feel your whole body moving and everything about you will seem to move. Practise both with open and closed eyes.

4. MEMORY SWING

The memory swing relieves strain and tension as do the long or the short swings. It is done with the eyes closed while one imagines himself to be looking first over the right shoulder and then over the left shoulder, while the head is moved from side to side. The eyeballs may be seen through the closed eyelids to move from side to side in the same direction as the head is moved. When done properly, the memory swing

is just as efficient as the swing which is practised with the eyes open, whether it is short or long.

The memory swing can be shortened by remembering the swing of a small letter, a quarter of an inch or less, when the eyes are closed.

The memory swing has given relief in many cases of imperfect sight from myopia, astigmatism, and inflammations of the outside of the eyeball as well as inflammations of the inside of the eyeball. It is much easier than the swing practised with the eyes open and secures a greater amount of relaxation or rest than any swing. It may be practised incorrectly, just as any swing may be done wrongly, and then no benefit will be obtained.

5. VARIABLE SWING

Some patients feel difficulty in imagining the front objects moving in the opposite direction. For such persons variable swing is a great help.

The forefinger or a pencil is held about six inches in front of the face, and a short distance to one side. By looking straight ahead, without trying to see the finger, and moving the head from side to side, the finger or the pencil appears to move. This movement of the finger is greater than the movement of objects at the distance. By practice, patients become able to imagine not only the finger to be moving, but also distant objects as well. Close the eyes and imagine the movement of the finger while moving the head and the eyes from side to side. Repeat with the eyes open and closed.

6. FOREHEAD SWING the artist at

Place your fingers lightly on the forehead as in the diagram. Keep the eyes closed. Move your eyes and head from side to side, but let the fingers be so stationary at one place and allow forehead to move freely beneath them. The fingers will appear to be moving in the opposite direction while moving the head from side to side. The swing when practised in a right way proves very efficacious in relieving headache and pain in and around the eyeballs.

7. BABY SWING

Hold a baby and move it continuously in slow, short, easy curves, instead of throwing the baby rapidly, irregularly, intermittently from side to side. This swing is very helpful for babies who suffer from restlessness or eye strain.

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R VII

ELAXATION

MAGINATION

in the chapter on strain, that
largely by the mind, and partly with the
eyes. The phenomena of vision depend upon the mind's
interpretation of the impression upon the retina. What we
see is not that impression, but our own interpretation
of it.

ILLUSTRATIONS

1. The whiteness of the centre of "O" in the test card seems to be whiter than the margin of the card, though it is really of the same shade.

2. The moon looks smaller at the zenith than it does at the horizon.

3. When you see a large letter of the smaller test card, the part regarded appears blacker than it really is.

4. A portrait painted by one painter may look entirely different from a portrait of the same person by some other artist.

5. A drawing may be made of a plaster cast which may appear all right when first completed, but may

show many faults when studied by the same artist at other times.

6. In a totally dark room, one often imagines that he sees a white ghost. The imagination may be so vivid that no amount of argument will convince him that he did not see a ghost.

Thus, our sight depends upon our imagination or the mind's interpretation of the retinal image. Persons with normal vision use their memory and imagination as aids to sight; and when the sight is imperfect, it can be demonstrated not only that the eye itself is at fault, but that the memory and imagination are impaired, so that the mind adds imperfections to the imperfect retinal image.

A familiar object is always more readily distinguished than an unfamiliar one, and this is simply because memory and imagination have come to our aid; the image of the object has been impressed on our mind through previous experience; and that helps us to pick it out more easily than the object seen for the first time. Any one can test the truth of this for himself—we can all distinguish friends among a group of people more easily than a stranger.

When the mind is able to remember anything perfectly, it is always perfectly relaxed and the sight also is normal; and when the eyes are closed and covered so as to exclude all the light, one sees a perfectly black field. The smaller the area of black which the patient is able to remember, the greater is the degree

of relaxation obtained; but some patients find it easier to remember a somewhat large area, such as one of the letters on the Snellen's test card, with one part blacker than the rest. They may begin with the big "C", then proceed to the smaller letters and finally get to the dot. It is then found that this smaller area is remembered more easily than the larger ones and its blackness is more intense. Some patients find it easier to remember the punctuation mark, a colon, with one part blacker than other parts. As it is impossible for the mind to think of one thing continuously, some patients find it useful in the beginning to shift consciously from one of these black areas to another, and to realize the swing, or pulsation, produced by such shifting. When the memory becomes perfect, one object may be held continuously in the mind without conscious shifting, while the swing is realised only when attention is directed to the matter.

Although black, as a rule, is the best colour to remember, some patients are bored or depressed by it, and prefer to remember white, or some other colour. One may have the perfect memory of a yellow buttercup, and another of the opal of the ring. Whatever the patient finds easiest to remember is the best to remember, because memory can never be perfect unless it is easy.

When the memory of the black dot becomes habitual, it is not only not a burden, but is a great help to other mental processes. The mind when it remembers one thing better than all other things possesses central fixation, and its efficiency is thereby increased,

just as the efficiency of the eye is increased by central fixation.

When the memory and the imagination are perfect, the eye at once becomes normal with normal vision. Imperfect memory or imagination may even produce organic changes in the eye-ball. One can, by imagining a letter imperfectly, increase the hardness of the eye-ball, which is an important symptom of Glaucoma. Conversely, the imagination of a letter seen perfectly softens the eye-ball in Glaucoma with great benefit to the pain and the imperfect sight in this disease.

Imperfect imagination produces cloudiness of the lens or increases the opacity of the lens in Cataract. One can produce Myopia by imperfect imagination. The imagination of imperfect sight for near objects always lessens the length of the eye-ball, and produces or increases Hypermetropia. All forms of Astigmatism can be produced or increased by the imagination of imperfect sight. They are all cured temporarily or permanently by the imagination of perfect sight.

Wonderful cures of many eye-diseases have been achieved by the proper use of the imagination and the memory, even when other methods have failed. Imagination, when used properly, is the most satisfactory, most accurate, most helpful method that we know to obtain perfect sight. If our imagination of something is as good at twenty feet or forty feet or sixty feet or further, as it is at near point where we see it perfectly, our vision is as good as our imagination.

TESTS TO MEASURE PERFECT MEMORY

1. When the memory of the dot or of any other thing is perfect, it is instantaneous. If a few seconds or longer are necessary to remember it, the memory is never perfect.

2. A perfect memory is not only instantaneous, but continuous.

3. When the memory is perfect, perfect sight comes instantaneously. If good vision is obtained only after a second or two, it can always be demonstrated that the memory is imperfect also.

4. The memory of the dot is a test of relaxation. It is the evidence by which the patient knows that his eyes and mind are at rest. It may be compared to the steam gauge of an engine, which has nothing to do with the machinery, but it is of great importance in giving information of the ability of the mechanism to do its work. When the dot is black, one knows that the engine of the eye is in good working order. When the dot fades, or is lost, one knows that it is out of order, and requires treatment.

DEMONSTRATION—

1. That the smaller the object regarded, the easier it is to remember.

Regard a capital letter. Note that it is easier to see or remember the top of the letter best, and the bottom of it less clearly than to remember the top and bottom

perfectly and simultaneously. Now look directly at the upper right corner and imagine one-fourth of the letter best. Then cover the remaining three-quarters of the letter with a piece of paper. It is possible to look directly at the exposed part of the letter and imagine half of it best. Cover the part that is not seen directly, and demonstrate that half of the exposed part of the letter can be seen or imagined best, while the rest of it is not seen so clearly. With the aid of the screen, an area as small as an ordinary dot may finally be imagined.

2. That with the eyes closed, a small black dot can be imagined blacker than one three inches in diameter. If this fact cannot be readily demonstrated with the eyes closed :

(a) Stand close to a wall of a room, at a distance of three feet or less, and regard a small black spot on the wall six feet from the floor. Note that you cannot see a small black spot near the bottom of the wall at the same time.

(b) Place your hand on the wall six feet from the floor, and note that you cannot see your hand clearly when you look at the bottom of the wall.

WHY ONE FAILS TO HAVE PERFECT MEMORY OR IMAGINATION?

1. When one imagines objects to be stationary.
2. When the mind or the eyes are under strain on account of staring, partly closing the eyes, frowning, etc.

3. When one tries to see all the letters of a line equally well at one time or tries to remember too much at once.

4. When the form of an object is imagined imperfectly. For example, if the letter "O" is a perfect circle and is imagined to be an oval with long axis vertical or horizontal, the imagination of the "O" will not be as perfect as when the "O" is imagined to be a circle.

5. When the size of an object is regarded much larger or smaller than it really is, the imagination is imperfect.

6. When one imagines the white background or the spaces between the lines of print to be less white than margin of the card.

7. Excitement of various kinds, unexpected noises and unusual occurrences, worries, anxieties and physical discomforts also affect the memory and the imagination.

8. Imagination of unknown letters or objects.

9. Speaking of or thinking about unpleasant things.

10. When one tries to stop the swing of the object or when the swing is too short, too long, too rapid or too slow, irregular and not continuous.

METHODS TO GET PERFECT IMAGINATION

1. **Letter in the air :** Take two similar Snellen test cards. Place one at a distance of ten feet or less where it cannot be readily distinguished and appears blurred, and the other card at a distance of one foot

or less, from where you can see it best. Now regard a letter of the distant card, then look at the same letter on the card at the near. Then close the eyes and with your finger draw the same letter in the air as well as you can remember it. Open your eyes and continue to draw the imaginary letter with your finger while looking for only a few seconds at the blurred letter on the card at ten feet or less. Then close your eyes again and remember the letter well enough to draw the letter perfectly in your imagination with your finger. Alternate drawing the letter at ten feet in your imagination with your eyes closed as well as you see it at one foot or nearer. When you can draw the letter as perfectly as you remember it, you see the letter on the distant card in flashes.

By repetition, you will become able not only to imagine always the known letter correctly, but to see it actually for a few seconds at a time. You cannot see a letter perfectly unless you see one part best, that is, by central fixation. Note that you obtain central fixation while practising this method, i.e., you see one part best. Drawing the letter with your finger in your imagination enables you to follow the finger in forming the letter, and with the help of your memory, you can imagine each side of the letters best, in turn, as it is formed. When the letters on the distant card become distinct and clear, then increase the distance of the distant card by two to six inches only. By and by increase the distance to fifteen or twenty feet.

By this method, the memory and the imagination are improved, and when the imagination becomes perfect,

3. When one tries to see all the letters of a line equally well at one time or tries to remember too much at once.

4. When the form of an object is imagined imperfectly. For example, if the letter "O" is a perfect circle and is imagined to be an oval with long axis vertical or horizontal, the imagination of the "O" will not be as perfect as when the "O" is imagined to be a circle.

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METHODS TO GET PERFECT IMAGINATION

1. **Letter in the air :** Take two similar Snellen test cards. Place one at a distance of ten feet or less where it cannot be readily distinguished and appears blurred, and the other card at a distance of one foot

or less, from where you can see it best. Now regard a letter of the distant card, then look at the same letter on the card at the near. Then close the eyes and with your finger draw the same letter in the air as well as you can remember it. Open your eyes and continue to draw the imaginary letter with your finger while looking for only a few seconds at the blurred letter on the card at ten feet or less. Then close your eyes again and remember the letter well enough to draw the letter perfectly in your imagination with your finger. Alternate drawing the letter at ten feet in your imagination with your eyes closed as well as you see it at one foot or nearer. When you can draw the letter as perfectly as you remember it, you see the letter on the distant card in flashes.

By repetition, you will become able not only to imagine always the known letter correctly, but to see it actually for a few seconds at a time. You cannot see a letter perfectly unless you see one part best, that is, by central fixation. Note that you obtain central fixation while practising this method, i.e., you see one part best. Drawing the letter with your finger in your imagination enables you to follow the finger in forming the letter, and with the help of your memory, you can imagine each side of the letters best, in turn, as it is formed. When the letters on the distant card become distinct and clear, then increase the distance of the distant card by two to six inches only. By and by increase the distance to fifteen or twenty feet.

By this method, the memory and the imagination are improved, and when the imagination becomes perfect,

the sight is perfect. This method should be practised at least for one hour, twice or thrice daily. You can cure highest degrees of myopia, hypermetropia, astigmatism, optic atrophy, progressive cataract, glaucoma, detachment of the retina and other diseases by this method.

2. Letter imagination : If the patient is unable to see letters on a certain line of the test card, he is told what the first letter is and is directed to close his eyes and imagine that letter for about ten seconds, then to open the eyes and regard the letter. When the letter is imagined perfectly enough, other letters on that line are seen. Then imagine the first letter of the next line, and so on. If no letter is seen on a certain line, the patient may come to the test card, see, go back and imagine. By alternately regarding the letter with the eyes open and closed, the imagination of the letter improves in flashes.

By continuing to alternate, the flashes improve and last longer and the vision becomes gradually improved.

3. F : If you do not get any improvement by practising at fifteen feet distance, bring the card closer to six feet or nearer. Hold another card in your hand and look at the letter "F" of the ten feet line. See it with a slow, short easy swinging with "F" for a few minutes. Then glance at the first letter of each line of the Snellen's card at the distance of six feet without modifying or stopping the swing of your body. When the vision is improved at six feet, increase the distance by and by till you reach fifteen feet, practising in the same way.

4. **The black dot :** Place the Snellen's test card on a white wall at ten feet distance or nearer. Now imagine a black dot while looking little to one side of the test card, say a foot or more ; then imagine it nearer to the card and finally imagine it to be between the lines of letters on the card. In this way, you will be able to see the letters without losing the imagination of the black dot ; and when you can do this, you may look directly at a letter without losing control of the imagination of the dot. The next step is to note whether the bottom of any letter is straight, curved, or open, without losing the dot in the bottom. When you can do this, do the same with the sides and the top of the letter, still holding the dot in your imagination. Usually when the parts can be observed separately in this way, the whole letter can be seen without losing the imagination of the black dot. It is very helpful if the dot is imagined in the blackness of the bottom of each letter.

5. **Imagination test :** Place the back of the one Snellen test card towards the patient ten feet away from him, and the face of the second card towards him at twelve feet. Both cards can be so arranged that the patient can observe an open space between the two or about four or five inches in width.

When the patient moves the head and eyes to the left, the space between the two cards becomes less and one can imagine the nearer card moving to the right, while the more distant card with its letters appears to move to the left.

When the head and eyes move to the right, the

nearer card appears to move to the left, the space becomes larger between the two cards and the patient can imagine the face of the more distant card moving to the right.

Then close the eyes, swing and imagine the near card to be moving in the opposite direction, while the distant card in the same direction. Repeat. In some cases of defective sight, the nearer card moves in the opposite direction while the distant card may also move in that opposite direction, or it may stop or move in an irregular, jerky manner.

When the imagination of black dot or some object is correct with the eyes closed, the swing of the more distant card becomes normal, the card moves from side to side in the same direction as the head and eyes, and moves slowly, easily and continuously. The converse is also true, that when the distant card does not move with the head and eyes, the imagination of the object is imperfect.

By the continued practice of this method, the flashes of improved vision become frequent and last longer. Some patients are benefited by practising this method with the eyes closed for a longer time than with the eyes open.

PRACTICE ON 33 CHART

1. Place the chart at a distance from where you see it best and in good light. Look at 33 by central fixation. Then close the eyes and imagine 33. While imagining it, move your attention from the beginning

of ॐ moving through the whole of it, part by part. Note that the part of ॐ regarded in imagination is blacker. If your imagination fades away soon, you should open the eyes and again look at ॐ by central fixation. Repeating in this way, you will become able to keep the picture of ॐ in your imagination for a sufficient time. Devote about 15 minutes at least daily and it will give you good relaxation. When you become able to imagine ॐ easily, then you do not require the presence of the chart before you.

2. Imagine the black dot above the arc. It will be imagined to be moving from side to side or up and down. The movement will be according to the size of the dot. Now try to stop the movement of the dot. You will at once lose the memory of the dot and will feel discomfort in your eyes. Again imagine it to be moving and you will be able to imagine it easily, without any effort or strain. The memory of this dot checks many eye troubles, such as, the floating of specks before the eyes, diplopia, glaucoma, progressive cataract, etc.

3. Imagine that you are painting ॐ with a brush and black paint. Now draw a black circle all round ॐ. Paint this circle several times with black paint. Now draw the triangles on the circle and paint them also with black paint several times.

After finishing, begin to draw smaller and smaller ॐ, circle and triangles. The smaller the ॐ drawn in imagination, the better.

CHAPTER VIII

TREATMENT

EYE TEST CARD PRACTICE

1. Every home should have a Snellen eye test card.
2. It is best to place a card permanently on the wall in good light.
3. Each member of the family or household should read the card every day.
4. It takes only a minute to test the sight with the card. If you spend five minutes in the morning for practising, it will be a great help during the day.
5. Place yourself ten feet from the test card and read as far as you can without effort or strain. Over each line of letters are small figures indicating the distance at which the normal eye can read them. Over the big "C" at the top of the card is the figure 200 the big "C", therefore, should be read by the normal eye at the distance of 200 feet. If you can read this line at ten feet, your vision would be $10/200$. The numerator of the fraction is always the distance of the card from the eyes. The denominator always denotes the number of the line read. If you can only read the line marked 20, at ten feet, the vision is $10/20$.
6. If you can only see down to the fourth line at ten feet distance, for example, notice that the last letter on that line is an "O". Now close your eyes, cover them with the palms of the hands and remember the "O".

If you will remember the picture of "O", it will help you to see the letter underneath the "O", which is "R".

7. If you stare at the letter "R", you will notice that all the letters on that line begin to blur. It is beneficial to close your eyes quickly after you see the "R", open the eyes, and shift to the first figure on that line which is 4. Then close your eyes and remember the 4, you will become able to read all the letters on that line by closing your eyes for each letter.

8. To see one letter of the card continuously, it is necessary to shift from one part of the letter to another. By alternately moving the eyes from one side of the letter to the other, it is possible to imagine the letter to be moving in the opposite direction to the movement of the eyes. This movement of the letter is called a swing. When it is slow, easy, short, about one quarter of an inch or less, maximum vision is obtained which continues as long as the swing continues.

9. While reading the card, blink on each letter, and, instead of fixing the sight on the black area, keep the sight on the white portion or look to the right and the left of the letter.

10. Practising with a familiar card is one of the quickest methods of curing myopia temporarily or permanently. The more perfectly the letters of the card are remembered or imagined, the more completely is the myopia relieved.

11. In cases of nervous patients or children, point to the first letter of each line by putting your finger half an inch below each letter and tell the patient to look in the direction of the finger tip and not at the letter.

12. Stand and sway, or sit in a comfortable chair, and rest your legs and feet on a stool which is as high as the seat of your chair. Read the card lazily, and comfortably and gently blink as you read. Read the test card with your better eye and then palm. Read the test card with your worse eye and then palm. Read the test card with both eyes together and then palm. Practise with the pot-hooks chart as follows :—Name or indicate with the hand the direction in which the letter points. Copy the chart, using white paper and black pencil. Read it with the weaker eye, covering the other with a pad.

13. When difficulty is experienced in reading certain letters on the chart, one or more of the following methods may be tried :—

- (a) Palm, then remove the hands and swing, read the chart, close the eyes after reading each letter.
- (b) Read the fine print as close to the eyes as possible, avoiding strain, and then read the chart.
- (c) Close the eyes for a few seconds, and look at the left side of the letter, report its appearance ; repeat with the right side of the letter, then read the letter.
- (d) Walk up to the chart, read the letter, return to the former position and read it.

14. Note from the diagrams how to keep your eye covered while reading the chart.

15. Keep a record of each test in order to note your progress from day to day.

READING FINE PRINT (Reading Test Type)

1. The reading of large type in preference to finer print is a bad habit. It requires more of an effort to see a large letter than a small letter, strange as it may seem. When you look at the big "C" on the Snellen test card, you don't see it all at once. You have to look at one part best. Some people think they see the whole of it at the same time, but that is not the case. Their eyes shift from one point to another unconsciously.

2. Blink frequently, at least at the beginning and at the end of each line of ordinary type.

3. Do not look at the letters, but at the white spaces between them, and imagine them whiter than the margin. It is a general belief that when we read, we are looking at the letters. When one reads with the perfect sight, one does not look at the letters, but at the white spaces between the lines and imagines the white centres of the letters to be whiter than they really are. Look directly at a small letter of the fine print that can be read and concentrate your mind and eyes on one part of the letter. You soon feel an effort or strain and the vision is always lowered. If the vision is not lowered, that means that you are unable to keep your attention fixed on the same part of a small letter for a continuous length of time. When one plans to look at the white spaces and, while trying to read something, feels discomfort or pain, it means that the eyes are not directed on the white spaces as the reader may imagine.

4. Move the head a little from side to side. Keeping the head and the eyes stationary causes strain and lowers the vision.

5. If your eyes feel strained and do not want to read more, stop and palm for a few minutes. You will notice that where it looked all blurred before will appear clear and distinct now.

6. Read the fine print as close to the eyes as possible both morning and evening. It will keep your near sight strong and prevent eye troubles that generally appear in old age.

7. Reading the familiar types is always more beneficial than an unfamiliar one.

8. Before practising on the reading test type, have sun treatment and it will help you a great deal. The letters, which you were quite unable to read, will become distinct and clear. Frequent practices will make that improvement permanent. Hold a card of fine print (reading test type) about ten inches from the eyes. Read as much as you can. Now face the sun with closed eye-lids for five minutes or more. Come to your former seat, sit comfortably and cover the eyes with the palms of your hands for two minutes or more. Then read the test type while blinking frequently. You will notice decided improvement in your sight.

9. When the imagination of the white spaces has improved, it often happens that one can see or imagine that he sees a thin white line much whiter than the

white spaces, a line which extends from one side of the page to the other, which is located between the lines of print. The consciousness of this thin white line is a wonderful help. The imagination of this line is very important and I will deal with it in a separate section.

10. Moving the finger nail or the point of the pencil more or less rapidly close to the bottom of the letters enables some patients to read the fine print perfectly, continuously and rapidly.

11. Always keep the book or newspaper about six inches or more below the level of eyes. Never raise the book or paper to the level of the eyes. Some people make a mistake by keeping the book even higher than the level of the eyes. In this wrong position, the lids are raised and cause strain. Such patients generally suffer from hypermetropia or astigmatism.

12. Reading may be done while lying on bed, but care should be taken that the lids are not raised, and the head moves a little from side to side.

THIN WHITE LINE

The imagination of a thin white line between the lines of print helps in relieving most eye troubles. Most people suffering from presbyopia and hypermetropia (long sight) are cured when they become able to imagine that they see this white line brighter and clearer than the margin of the page. It gives a restful, pleasant feeling to all the nerves of the body when the thin, white line is seen, remembered or imagined. In cases of inflammation, when one is able to imagine the thin white line, pain in the eyes, head or other parts of the body disappears as though by magic. Patients with cataract who become able to imagine this thin white line perfectly very soon become able to read the finest print without effort or strain, and the cataract always improves or becomes less. Patients with astigmatism, squint, diseases of the retina and optic nerve are benefited by the memory or the imagination of the thin white line.

A great many people are very suspicious of the imagination of the thin white line and feel or believe that things imagined are never true. The more ignorant the patient, the less respect he has for his imagination. It comes to them as a great shock to discover that the perfect imagination of the thin white line improves the sight.

The ability to imagine the white line is acquired by the memory of white snow, white paint or anything perfectly white, with the eyes closed for a part of a minute. Some patients count thirty while remembering some white object or some scene with the eyes closed. Then, when the eyes are opened for a second, the white lines are imagined, or seen much whiter than



Reading the eye Chart with one eye

Wrong methods.

1. Closing the eye with the fingers.
2. Covering the eye with the palm and raising the upper lid.
3. Closing the eye with the palm end.

Right method.

4. Covering the eye with the palm, raising the chin and lowering the upper lid.

E

30
F P

20
T O Z

15
L P E D

10
P E C F D

5
E D F C Z P

4
D E F P O T E C

3
L E F O D P C T

2
F D P L T C E O

Snellen's Eye Testing Chart F, Pocket size

D-050

No 1. YELV LEFF VERL VELL
 COOL AOFF COOE SOLL
 SEFT FLOE LEST COET
 ELON COLV BOLL COET

D-075

No 2. LEE ELL ELT FOR
 COB TOS COF TOO
 FRE LET EEL ELL
 ODD COB LOS BOE

D-100

No 3. FELL TOLL DELL
 DOTE FOOL TOLD
 FLEB LOEL CELT
 COLB FOOE DOFF

D-200

No 4 TOE OFT
 DOD ODE
 LOT FED

Reading Type.

D-500

No 5. L D T

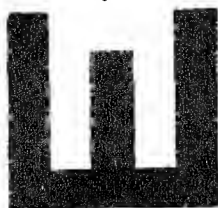
D-900

No 6. F B Z

Distant Type.

Reading Test Type Jaeger.

50



40



20



15



10



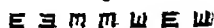
5



4



3



2



Pot-Hook Card Pocket Size for Children and illitrates.

before. By remembering perfectly white with the eyes closed and opening them for a few seconds, the vision or the imagination of the white line improves. One needs to be careful not to make an effort to regard the black letters. When the white line is remembered with the eyes closed and with the eyes open, the black letters are read without effort or strain. Many people discover that they can imagine a thin white line where the bottom of the letters comes in contact with the white line. The thinner the white line is imagined, the whiter it becomes and more perfectly the letters are read. Of course, the eyes have to shift from the thin white line to the letters in order to see them, but the shifting is done so rapidly, so continuously, so perfectly that the reader does not notice that he is continuously shifting. When the vision of the thin white line is imperfect, the shifting is slow and imperfect, and the vision for the letters is impaired.

How to Imagine the White Line

1. Hold the card in your hand at ten inches. Move your sight from one corner to the other of the white lines, without trying to read. While moving the sight keep a short swing of the body.
2. Blink at each end.
3. Imagine that the line moves in a direction opposite to that of the swing of the body.
4. Now close the eyes, keep the swing, imagine the white line or some other object.
5. Then open the eyes and look at the white lines. Repeat.

ॐ CHART

This ॐ chart drawn on *Bhojapatra* was found under the ground in Kashmere. I was in search of some Indian literature on the treatment of eyes and I got this from a *Sadhu*. This chart is very scientifically drawn. It contains different eye exercises which are similar to those of Dr. Bates. Dr. Bates himself acknowledges that India knows many secrets which are unknown to the present scientists even now. Keep this chart in your home. Practise on it daily for a few minutes and it will keep the imagination of ॐ in your mind.

1. With the help of blinking, move your sight on ॐ, drifting the mind from one part to another.

2. Stand at three to ten feet distance and sway a little from side to side. Move your sight on the arc ~ from side to side. Imagine both the arc and the dot (°) above the arc moving in the opposite direction.

3. Place the card at your height on the wall and stand about three feet away. Keep the palms together as when you do *pranam*. Bow your head down to the hands and again raise the head. Repeat it several times. Note that the chart or ॐ moves up and down in the opposite direction. When you bow, it rises up, and when you raise the head, it moves down.

While lowering or raising the head do not make any effort to see ॐ, otherwise you will lose the imagination of its movement. Remember to lower the lids while bowing, and raising the lids while raising the head.

COMPARISONS

In practising with the Snellen test card, when the vision is imperfect, the blackness of the letters is modified and the white spaces inside the letters are also modified. By comparing the blackness of the large letters with the blackness of the smaller ones it can be demonstrated that the larger letters are imperfectly seen.

When one notes the whiteness in the centre of a large letter, seen indistinctly, it is usually possible to compare the whiteness seen with the remembered whiteness of something else. By alternately comparing the whiteness in the centre of a letter with the memory of a better white, as the snow on the top of a mountain, the whiteness of the letter usually improves. In the same way, comparing the shade of black of some other object may be also a benefit to the black.

Most persons with myopia are able to read fine print at a near point quite perfectly. They see the blackness and whiteness of the letters much better than they are able to see the blackness of the larger letters on the Snellen test card at 15 or 20 feet. Alternately reading the fine print and regarding the Snellen test card, comparing the black and white of the small letters with the black and white of the large letters, is often times very beneficial. Some cases of myopia have been cured very promptly by this method.

All persons with imperfect sight for reading are benefitted by comparing the whiteness of the spaces

between the lines with the memory of objects which are whiter. Many persons can remember white snow with the eyes closed whiter than the spaces between the lines. By alternately closing the eyes for a minute or longer, remembering white snow, white starch; white paint, a white cloud in the sky with the sun shining on it, and flashing the white spaces without trying to read, many persons have materially improved their sight and been cured.

ROUTINE TREATMENT

For the improvement of distant sight

Remove glasses and test the vision of each eye separately and then of both eyes together with the aid of Snellen eye testing chart at twenty feet in good light. If none of the letters can be seen at this distance, the chart is placed at 10 ft., five feet or nearer. Write the results in the form of a fraction.

Then close the eyes for about 10 minutes and either sway or palm. Open the eyes and sit before a mirror. Correct the position of your lids and learn to blink gently and frequently. Maintain correct position of lids and blinking all the time. Put your strong will on them. In bad cases, it is good to sway the body, head and the eyes gently while sitting or standing, with open and closed eyes, imagining the bars or front objects moving, for several days before beginning the following programme—

After sleep in the morning : Practise long swing 100 times or run in a circle or palm for 5 minutes.

At the time of nature calls and dressing :
Remember blinking.

While walking : Imagine side objects moving.

Morning and evening practices :

1. Take sun treatment with the eyes closed for 10 to 30 minutes. It is better to apply honey or Resolvent 200 in each eye with a rod just before sun treatment.

2. Come to the shade, wash the eyes with cold water or *triphala* water or Ophthalmo.

3. Sit comfortably, close the eyes and practise palming or universal swing.

4. Then open the eyes, blink gently and practise on the chart in good light with the help of swinging or imagination exercises. At intervals, central fixation and palming may be practised. Some patients are able to improve simply by frequent palmings.

At leisure hours, practise palming or memory swing or swinging before bars.

After meals : Practise contact swing for a few minutes.

Game time : Play or see ping pong, badminton, tennis. Run on the green grass frequently with bare feet.

Bed time : Practise palming or touch swing or forehead swing.

FOR THE IMPROVEMENT OF NEAR SIGHT

Near sight is generally defective in hypermetropia, presbyopia, high myopia and astigmatism. Remove the glasses and test the vision of each eye separately and then of both eyes together, with the aid of Reading Test Type at six inches, nine inches or twelve inches and keep the record of your best vision. Learn to blink gently and frequently and practise the following programme morning and evening—

1. Sun treatment, eye-wash and palming as directed before.
2. Open the eyes and practise central fixation exercises. For some patients moving the sight on the white line and reading the fundamental card page 89 with or without card hole will be sufficient. As the sight improves, myopic eyes may gradually increase the distance of the card, while hypermetropic and presbyopic eyes may decrease the distance of the card.

Swinging before bars and palming at intervals are very helpful.

If any method does not succeed, it should be abandoned after one or two trials and something else tried. It is a mistake to continue the practice of any method which does not yield prompt results. The cause of the failure is strain, and it does no good to continue the strain.

Benefit To Children and Adults

Every family should obtain a Snellen test card and place it on the wall of some room where it can be seen and read every day by all the members of the family. Not only does the daily reading of the card help the sight of children, but it is a benefit to the eyes of adults as well.

It is a well known fact that when most people arrive at the age of forty or fifty years, they find that their vision for reading or sewing is lowered. These people believe that they must put on glasses to prevent eyestrain, cataract, glaucoma, etc. Daily practice with the Snellen test card, together with the reading of fine print close to the eyes will overcome their difficulty. Reading fine print close to the eyes, contrary to the benefit of many ophthalmologists, is a benefit to the eyes of both children and adults.

It has been repeatedly demonstrated, however, that fine print cannot be read clearly or easily when an effort is made. When the eyes look directly at the letters, an effort is required, while looking at the white spaces between the lines is a rest, and by practice in this way, one can become able to see the letters clearly, without looking directly at them. When a patient looks at the white spaces between the lines of ordinary book type, he can read for hours and no fatigue, pain or discomfort is felt. When discomfort and pain in the eyes is felt while reading, it is because the patient is looking directly at the letters.

No Glasses for Quick Results

Generally persons who have never worn glasses are more easily cured than those who have, and glasses should be discarded at the beginning of the treatment. It is not always an easy thing to do, but it is best for the patient. During the treatment when the glasses are worn temporarily, even for a short time, the vision sometimes becomes worse and in most cases a relapse is produced. When the patient has to continue his work during the treatment and cannot do so without glasses, their use may be permitted for a time, and the power of the glasses can be reduced gradually, but this always delays the cure.

Some people complain that no glasses fit their eyes permanently. These cases are benefited by discarding their glasses for a longer or shorter period while being treated.

The time required to effect a permanent cure varies greatly with different individuals. In some cases five, ten, or fifteen minutes are sufficient, and I believe the time is coming when it will be possible to cure every one quickly. It is only a question of accumulating more facts, and presenting these facts in such a way that the patient can grasp them quickly. In most cases, the treatment must be continued for a few minutes every day to prevent relapse. When a cure is complete, it is always permanent. Even in such cases, the treatment can be continued with benefit. It is not always easy to treat the more severe cases. When the patient has been under a strain for a length of time, it is sometimes difficult to relieve the strain permanently in a short time. Patients vary in their response to treatment. While some obtain

permanent relief within a short time, others find it necessary to place themselves under treatment for a longer period.

Daily practice of the art of vision is also necessary to prevent those visual lapses to which every eye is liable, no matter how good its sight ordinarily be. The daily reading of small, distant, familiar letters will do much to lessen the tendency to strain when disturbing circumstances arise.

Persons of all ages have been benefited by Bates' methods of relaxation; but children under twelve years of age respond very quickly.

Instructions for Home Treatment: The most important thing is to impress upon the patient the necessity of discarding the glasses. He is told that when glasses are used even temporarily, a relapse always follows and the patient loses for a time, at least, everything that has been gained. If it is impossible or unnecessary for the patient to return at regular intervals for further treatment and supervision, he is given instructions for home practice to suit his individual case, and is asked to report his progress or difficulties at frequent intervals.

The importance of practising certain parts of the routine treatment at all times, such as blinking, keeping the lids lowered and imagining stationary objects to be moving in the opposite direction, is stressed. The normal eye does these things unconsciously and the imperfect eye must at first practise them consciously until it becomes an unconscious habit. Every patient is asked to take the sun treatment daily.

Correspondence Treatment: Many letters are received from people in various parts of India who find it impossible to come to my office and also believe that something might be done for them by correspondence treatment. I do not advocate correspondence treatment as a general rule, as the results are uncertain. There is always the possibility that the patient will not practise correctly the things which he is told to do. If the patient had had one treatment at my office, it is possible to treat that patient more intelligently through correspondence. When this book is read carefully, those things which are not understood may be cleared up by intelligent questions which I am always ready to answer. I do not consider this regular correspondence treatment very useful.

No doubt, in certain cases very remarkable results have been obtained by correspondence treatment. A boy wearing glasses of—4.0 got instructions by correspondence and in a week's time he made his eye-sight normal at different distances. Many other patients suffering from different sorts of eye-defects have also been benefitted by correspondence treatment; but many a times it has been noted that cases which did not improve by correspondence were soon benefitted after visiting my clinic.

CHAPTER IX

EYE SIGHT OF SCHOOL CHILDREN

Imperfect sight is found in the eyes of most school children of India and other countries. It is a truth that nearly all the cases of imperfect sight in school children are acquired after they enter the school. Their eyes are normal when they begin their school life. After a few years, most of them acquire imperfect sight, the average being about eighty per cent. Of these, nearly all have acquired far-sightedness and astigmatism. At the age of ten or twelve, near sightedness appears, and far-sighted children become less. It is a general belief that strain to see at the near point causes short-sightedness (myopia); but, in the preceding chapter, it has been clearly shown that a strain at the near point always produces far-sightedness (hypermetropia). To check the strain at the near point, the authorities laid down different rules as to the size of types to be used in school books, amount and arrangement of light, construction of desks, etc. The result of these preventing measures was disappointing and the prevalence of myopia did not stop.

The truth is that the strain to see at a distance causes near-sightedness or myopia. Why do some children strain at the distance and gain myopia while others do not strain at all and have perfect sight? Experience shows that all persons are not created equal. Some children come to know that strain lowers the vision, but they go on straining, because they do not know what else to do.

Children are great imitators. They learn to walk by watching others walk. They learn to talk and play from the examples of other children. Similarly, they learn to strain the eyes from their teachers, parents, friends and others. Parents and teachers, who use glasses and strain their eyes affect the mind of the children. Some children suffer so much from headache and other troubles when attending school that they easily acquire strain from others. Circumstances also affect the eyesight, for example :

1. Punishment either physical or mental.
2. Temperament of the people with whom the child comes into contact.
3. Nervousness of the children.
4. Uninteresting subjects.

Cure: 1. Teachers should learn how to have normal sight without glasses.

2. Teachers should explain to the students how to avoid strain by blinking, palming and swinging.

3. Daily practice on the Snellen test card for five minutes in the school (see the scheme of preventing myopia in schools).

4. Once a week, eye education should be given to the children. It is an encouraging fact that children, soon after they are cured without glasses, have a great desire to help others, and the more they try to help others, the greater the benefit to themselves.

5. Before you make up your mind to compel the child to use glasses, ask the child to practise relaxation method.

PREVENTION OF MYOPIA IN SCHOOLS

Place the Snellen test card upon the wall of each class-room. Every day, the children should read silently the smallest letters they can see from their seats, with both eyes together and then with each eye separately, the other eye being covered with the palm of hand, avoiding any pressure upon the eye-ball

Appoint a period of five minutes for it in the beginning of school work. It should be the duty of the teachers to note that all children read the test card with blinking. The practice of five minutes daily is sufficient to improve the sight of all children in one week and to cure defective eye-sight after some time.

Children with markedly defective vision should be encouraged to read the chart more frequently and practise palming at home. Children wearing glasses should not be interfered with, as they are supposed to be under the care of physicians and the practice will do them little or no good while the glasses are worn.

Though not necessary, it is of a great advantage to have records made of each pupil at the time when the method is introduced, and thereafter at convenient intervals annually or more frequently. This may be done by the teachers. The records should include the name and the age of the pupil, the vision of each eye tested, and the date.

HOW TO TEST THE VISION? Keep the Snellen chart at twenty feet distance from the student and ask him to read the chart with each eye separately, keeping

the other eye covered by the palm of the hand. Write the result in the form of a fraction with the distance at which the line of letters is read as the numerator and distance at which the line ought to be read as the denominator. The figures above the line of letters on the test card indicate the distance at which these letters should be read by persons with normal sight. Suppose, Mr. Mohanram, aged fifteen reads at 20 feet distance the fifty feet line with the right eye and at ten feet distance the 200 feet line with the left eye, then write :—

Date.	Name.	age	1st test.		Date.	2nd test.		Date.	3rd test.	
			R.E.	L.E.		R.E.	L.E.		R.E.	L.E.
1.9.'40	Mr. Mohanram.	15	$\frac{20}{50}$	$\frac{10}{200}$	1.10.'40	$\frac{20}{40}$	$\frac{20}{100}$	12.12.'40	$\frac{20}{20}$	$\frac{20}{30}$

A certain amount of supervision is absolutely necessary. At least once a year, one who understands the methods should visit each class-room for the purpose of answering questions, encouraging the teachers to continue the use of the method and making some kind of report to the proper authorities. It is not necessary that either the supervisor, the teacher or the children should understand anything about the physiology of the eye. This scheme will save many students from becoming myopic and retardation. Try it in the schools at least for a year and keep the record. Compare it with the results of the previous year, you will be convinced of the fact.

Then why should our children be compelled to suffer any more and wear glasses for want of this simple measure of relief? Lots of money are spent in spectacles every year. This system costs practically nothing. Simply there is the need of a Snellen test card in each class-room. No one would venture to suggest that this scheme could possibly do any harm. Why, then, should there be any delay about introducing it into schools?

This plan for eye-sight conservation was followed by the institutions of Khurja. First, I delivered lectures on the subject and visited each class-room and explained the method clearly. Great care was taken to make the reports accurate. The tests were made by the class-room teachers. 820 eyes were examined and 249 were recorded defective at the beginning of the session. During the year, the pupils were merely encouraged to read the Snellen test card daily. At the close of the year again, the eyes of the same students were examined. 99 out of 249 defective eyes had attained normal vision, while 85 showed improvement.

Mr. Chunnilal Majumdar, Principal of the Khurja College, writes :—

Dr. Raghubir Sharan Agarwal delivered lectures in my college on the prevention of myopia. The scheme was explained with facts and I introduced it in the classes. I took the results of the visions of students before beginning the scheme. I set apart a period of about five minutes for the students to have a daily practice. After six months, I secured the results again and found a marvellous progress and improvement in the cases of defective vision.

Q. What are the benefits of this chart reading scheme ?

- A. 1. Improvement in eyesight.
2. Headaches or other discomforts are relieved or prevented.
3. Ability to study is improved.
4. Mental faculties are improved.
5. Truancy becomes less.
6. Mischievous and restless boys become model pupils.

Q. If strain at distant objects causes myopia then, why is it more prevalent in schools and colleges where the students devote most of the time in reading ?

A. When one strains in reading, keeps up the strain at other times too, and when he looks at distant objects under the strain, myopia is produced.

Q. Is it not that when the child reads the same chart daily, he remembers it by heart and then reading of the same chart will not be beneficial ?

A. Daily reading of the familiar chart is very beneficial. The memory of the letters helps the children to relax themselves, and they can read more lines of the chart.

Q. What is the most helpful exercise for children ?

A. Palming is generally most helpful.

PALMING COMPOSITIONS

1. Palming is one of the works that has helped me in room six. While writing a story it would help me in my imagination. When I first came to room six Arithmetic was very hard for me to learn, but now it is as easy as punk.

2. About a month ago I told my sister to start palming. She has glasses and I would not like her to have them any longer. She has started, and it looks like she will soon have eyes that will not need glasses.

3. Palming and the Snellen Card did me a great deal of good. It gave me more strength in my imagination, and I can do my work much better everyday. I am not sorry in knowing how to palm, because in the beginning I did not like to put my hands over my eyes.

4. I told my mother to palm, it would help her, but she did not believe me. One day I said, Mother, Palm. She said, All Right. Finally a week later she could see clearly. She said, "I am glad I did what you told me."

5. Palming is a wonderful treatment for the eyes. It has done much during one and a half years. It has strengthened our imagination, rested our eyes, and kept them from wearing glasses.

6. We have a palming lesson four times a day. While we are palming we have a little music to think of something pleasant. It has cured many headaches from some of us. It is spreading everywhere, and we see lots of people doing it now.

7. It is very good for me. It settled my mind. I do not get so excited, and can add my columns easier. I can palm, if I get nervous.

CHAPTER X

DIET AND EXERCISE

Unless the eyes are fully supplied with pure blood and sufficient nerve force, the process of vision cannot go on properly; and so any factor capable of interfering either with the blood vessels or the nerves of the eyes is a possible cause of defective vision.

It has been known for sometime that such diseases as diabetes and nephritis (kidney disease) have an effect upon the eyes, and it is generally admitted by medical men that some cases of cataract are diabetic in origin. The remarkably intimate relationship that exists between the eyes and every part of the body is as yet scarcely realised, except by those with a knowledge of the science of Iridology. It has been the work of the pioneers of Iridiagnosis to show that every change in any organ or part of the body is reflected in the eyes by a change of colour in the portion of the iris which is directly connected with that organ or part. Many practitioners of Natural Therapy have discovered that inflammatory conditions of the eyes such as conjunctivitis, iritis and keratitis, are not to be looked upon as diseases simply affecting the eyes, but as symptoms of a general catarrhal condition of the body due to excessive starch and sugar ingestion mainly.

Blood is the stream of life. If we take suitable and proper kind of food, we shall have good blood. With bad materials, no one should expect to build a good house. By overeating or eating unbalanced food, the surplus, which is not digested, clogs the intestines, putrifies there and produces poisons, called "Toxins," which

attack the liver, the kidneys, the lungs and other organs, and consequently the muscles and blood-vessels surrounding the eyes share in the clogging process set up all over the body. Once the muscles and blood vessels become clogged, proper drainage is impossible, and in time the muscles, instead of being soft and pliable, become hard and contracted. This eventually has the effect of preventing perfect accommodation, and later the shape of the eye is affected as a direct consequence.

The body requires certain articles, and each of them in certain quantity, for its proper nourishment. Substitution of one article by another can be done within only certain well-defined limits. If the change is made with indiscretion, ill-health is sure to follow. Granted that proper food is taken, you will help it by proper mastication, taking it in suitable quantity, and at sufficient intervals. I will give the general principles and every one can easily select the best food suited to his constitution, by trying it for himself.

The chemical composition of blood and lymph depends upon the chemical composition of food and drink, and upon the normal or abnormal condition of the digestive organs. The system of dietetics is based upon the composition of MILK, which is the only perfect natural food combination in existence. In eye diseases, vegetarian diet is preferred, and the change from a meat diet to a non-meat diet is of great benefit in the treatment of chronic eye diseases as retinitis, choroiditis, optic atrophy, high myopia, glaucoma, iritis, etc.

In the accompanying table, entitled "Dietetics in a Nutshell," we have divided all food materials into five groups.

DIETETICS IN A NUTSHELL

GROUP I CARBOHYDRATES			Foods in which the elements of the respective groups predominate.
GROUP II HYDROCARBONS			
GROUP III			
GROUP III			
Food classes,	Functions in Vital Processes.		
Starches and Dextrines.	Producers of Heat and Energy		CEREALS: The inner, white parts of wheat, corn, oats, barley and rice. VEGETABLES: Potatoes, roots, pumpkins. FRUITS: Bananas, NUTS: Chestnuts.
Sugars.	Producers of Heat and Energy.		VEGETABLES: Melons, beets FRUITS: Bananas, dates, figs, grapes, raisins. DAIRY PRODUCTS: Milk NATURAL SUGARS: Honey. COMMERCIAL SUGARS: White sugar, syrup, glucose, candy. NUTS: Coconuts.
Fats and Oils.	Producers of Heat and Energy.		FRUITS: Olives. DAIRY PRODUCTS: Cream, butter, cheese. NUTS: Almonds, walnuts, coconuts, peanuts, etc. COMMERCIAL FATS: Olive oil, vegetable-cooking oils. The yolks of eggs.

GROUP IV PROTEINS	Albumen (white of egg) Gluten (grains) Myosin (Lean meat).	Producers of Heat and Energy; Building and Repair Materials for cells and Tissues.	CEREALS: The outer, dark parts of wheat, corn, oats, barley and rice. VEGETABLES: Peas, beans, lentils, mushrooms. NUTS: Coconuts, chestnuts, peanuts, walnuts, etc DAIRY PRODUCTS: Milk, cheese. MEATS: Muscular parts of animals, fish and fowls.
GROUP V ORGANIC MINERALS	Organic Mineral Elements.	Eliminators; Blood, Bone and Nerve Builders; Laxatives; Cholagogues; Producers of Electro-magnetic Energies.	The red blood of animals. CEREALS: The hulls and outer, dark layers of grains and rice. VEGETABLES: Lettuce, spinach, cabbage, green peppers, water-cress, celery, onions, cauliflower, tomatoes, string-beans, fresh peas, cucumbers, radishes, beets, carrots, turnips, pumpkins, squashes. FRUITS: Apples, pears, peaches, oranges, lemons, grapefruit, plums, prunes, apricots, cherries, olives, berries. DAIRY PRODUCTS: Milk, butter-milk, skimmed milk. NUTS: Coconuts.

As a general rule, let one-half of your food consist of Group V, and the other half of a mixture of the first four groups.

Good foods are :

Dairy Products : Milk, Buttermilk, skimmed milk, cream, butter, fresh cottage cheese, curd. Cow's milk is rich in vitamin A, and proves very useful in retinal and choroidal diseases.

Eggs : Either raw, soft-boiled or poached, not fried or hard-boiled. One egg a day is sufficient. White of egg is much easier to digest than the yolk. Therefore, the white should only be used in cases of weak digestion.

Honey is a very valuable food and a natural laxative, and is one of the best forms of sugar.

Cereal Foods, rice, wheat, barley, graham, etc., are good when properly combined with fruits and vegetables and with dairy products. Use preferably the whole grain preparations. Avoid the use of white bread or any other white flour products, especially pastry. Barley flour is a very good food in chronic retinal diseases. It may be taken alone or mixed with wheat flour.

A good substitute for bread is the following : Whole-wheat preparation : Smash wheat into pieces (called *Dalia*) and soak in cold water for about one hour and boiled for about two hours. Eat with honey and milk. Add raisins. This dish is very nutritious and one of the finest laxative and easily digestible food. Oats porridge may be substituted.

Vegetables : Peas and beans in the green state are good vegetables. Lettuce, spinach, cabbage, watercress, celery, parsley, Brussels-sprouts rank highest in organic mineral salts. Next to these come tomatoes, cucumbers, green peppers, radishes, onions, asparagus, cauliflower, horse radish, pumpkins, squashes and melons. Strong spices and condiments should be avoided in cooking vegetables. Cook vegetables as long as is required to make them soft enough for easy mastication. Do not throw away a drop of water in which vegetables have been cooked.

Fruits and Berries

Lemons, grape fruit, oranges, apples, plums, pears, peaches, apricots, cherries are very beneficial.

Dried fruits—Prunes, dates, figs, raisins.

Bananas differ from the juicy fruits. They consist almost entirely of starches, dextrines and sugars. They should be used sparingly by people suffering from intestinal indigestion. They are excellent food, especially for children.

Fruits and vegetables may be mixed in the same meal.

First eat hard things as bread, then softer things rice, etc. liquids in the last as milk, soups.

VITAMIN A—Clinical and experimental evidence indicates that Vitamin A is essential for normal function of the retina and its use is helpful in myopia, retinal and choroidal diseases.

Vitamin A is present in cow's milk, carrot, cod-liver

oil, butter, pumpkin, spinach, tomatoe pineapple, peas fresh, fish. Abidol, Nestrovit and Tirphala Ghirta are good medicines.

The human body is made up of acid and alkaline constituents (Pitta and Cough). In order to have normal conditions and functions of tissues and organs, both must be present in the right proportions. Groups No. I, II, III and IV are generally acid forming and No. V alkaline forming. When the intake of acid forming diet becomes excessive or there is defective elimination of waste material through fæces, urine and perspiration, the amount of acid is increased beyond a certain limit. The blood loses its power to dissolve it, and it forms a sticky, glue-like, "colloid" substance, which occludes or blocks up the minute blood vessels (capillaries), so that the blood cannot pass readily from the arterial system into the venous circulation. This interference with the normal circulation and distribution of the blood interferes the normal functions of the eye. Diseases of retina and choroid are generally due to defective circulation of blood through the capillaries.

You may arrange your diet as under :

Morning about 6 to 7-30 Figs, dates, egg. apples, raisins and milk. Porridge or dalia is a good thing.

Midday, 11 to 12-30—Whole wheat, or barley or gram bread, dal, rice, cooked vegetables, both root and leafy, such as carrot, cabbage, spinach (palak sag) or other vegetation a little butter or ghee; any season fruit. Plantain is not to be classed as a fruit, but as a starchy food. If you like to take it, you must reduce the number of breads

or rice, calculating one small plantain equal to one *chapati*. It is a mistake which people commit by taking plantain after a full meal, and then complain of indigestion. Curd can be taken in sufficient quantity.

Evening Meal--In bad cases, it is better to avoid the whole-meal bread like that of midday. It is always good to take green uncooked vegetables called salads, made of lettuce leaves, onions, cabbage leaves, spinach (*palak*) leaves, tomatoes, cucumber, carrots, cut fine and dressed up with salt or honey to taste and lime juice. With this, you can take nuts, and a cup of milk with honey. No water is to be taken. Dalia or porridge and milk prove very useful in most of the cases.

Avoid all kinds of market sweetmeats.

Quantity of Food--No hard and fast general rule can be laid down. You yourself are the best judge. When you are satisfied, but not too full, stop. Fasting for one day every week proves very useful. One may clear the bowels by an enema once a week.

Importance of Water. Water should not be taken during a meal, because it hinders the secretion of saliva and gastric juice. Besides any quantity of the juices secreted will be diluted and made weaker. A few sips may be taken if at all necessary.

Water should be taken between the meals. About one seer of water in winter and double the quantity in summer months is quite necessary. If you drink a glass of water in the morning and one at the time of going to bed, it helps in the movements of the bowels,

especially if the water is warm. Three hours after meals or one hour before meals is a good interval to drink. But do not drink too much even then; otherwise you will be water logged and water-logging is very harmful.

If you get over-thirsty, it means that your inside is not correct and you require a short fast of a day or two and an enema of simple warm water and lemon juice.

CONSTIPATION

Constipation is the root cause of many diseases. People generally resort to purgatives and bed-pills at intervals, and in some cases daily—but without any cure. No purgative acts without producing irritation in the stomach and intestines. This constant irritation goes on producing chronic inflammation of these organs. Then they can neither secrete normal digestive juices nor have the capacity to absorb and assimilate in the natural way.

Worry, anxiety and want of proper exercise etc. also help in producing constipation. Alcohol, tea and coffee and condiments act just in the same way as do the purgatives in producing chronic inflammation of these very important organs.

Treatment—

1. Fasting once a week.
2. Train the bowels to act. After rising early in the morning, sit on the latrine, for at least 15 minutes every day and try to evacuate. For the first few days or a week, you might fail; but do not be disappointed.

By exercising your "Will power" and taking proper diet, you are sure to succeed. Until the constipation is cured, you should take enema with pure warm water every day and stop them as soon as the bowels move freely. You should avoid all strain but keep a strong will that the bowels should move.

3. During all the time, from the beginning, sip a glass of hot water with or without a squeeze of lime in it, the first thing in the morning and the last thing at bed time.

4. If you at all like to take a purgative, then senna powder is the best, but it should not be taken in large doses.

Senna powder is made of dried senna and rose leaves and sugar mixed in equal parts. Keep it in a well-corked bottle.

A teaspoonful morning and evening in a little milk for a few days will serve the purpose.

Large doses irritate the bowels just as other pills and medicines do.

Tirphata taken at bed time is a good laxative.

5. Enema once in one week or once in two weeks is very useful in most of the patients. Take the juice of 5 lemons (about one ounce) and mix it in 2 pints of lukewarm water. Use this water for enema.

EXERCISE

Exercise is very important. The best exercise for every one is walking. About four or five miles a day is quite sufficient. Gardening is also very good. One can have some jerking exercises for 10 or 15 minutes. When walking or taking any other exercise, take deep breaths at intervals. This will open all the smallest air cells in the lungs which play an important part in purifying the blood. For exercise, you should generally go to open air and sunshine, which are very beneficial to health. Stop exercise when feeling just tired. Let the muscles work smoothly.

While performing any exercise, take care of the position of the eye-lids. Do not open the eyes widely. Many athletes take their exercises before a mirror. They are told to look at the muscle which they are exercising in order to feel that it is growing in bulk and strength. This leads them to fix their gaze on the particular muscle in the mirror; blinking is stopped. As the exercise of that muscle may last many minutes, it leads to staring which affects the eyes adversely.

What should be done then? Blinking should not be stopped and the sight should continually shift from one part of the muscle to another part. Almost all the exercises involve the movement of the body or parts of it, either up and down or backwards and forwards. The general tendency is to leave the eyes staring in the front while the body moves, and this attitude is wrong. Shift your sight according to the movement of the body. At every movement of your body, imagine that the stationary objects are moving in the opposite

direction. If you move forward as in the exercise, Dand, the front objects and the ground should be imagined to be moving backward, and when you move backward, the objects should be imagined to be moving forward. The same with exercise, Baithak, the objects seem to be jumping up and down.

Walking:—While walking, running or riding, etc., imagine that the ground and side objects move backwards

Many people have complained that after walking a short distance slowly, easily and without any special effort, they become nervous, tired and their eyes feel the symptoms and consequences of strain. When they were taught the correct way to use their eyes while walking, the symptoms of fatigue or strain disappeared.

The fact can be demonstrated with the aid of a straight line on the floor or the seam in the carpet.

Stand with the right foot to the right of the line and the left foot to the left of the line. Now put your right foot forward and look to the left of the line. Then put your left foot forward and look to the right of the line. Note that it is difficult to do this longer than a few seconds without discomfort, pain headache, dizziness or nausea.

Now, practice the right method of walking and using the eyes. When the right foot moves forward, look to the right; and when the left foot moves forward, look to the left. Note that the straight line seems to sway in the direction opposite to the movement of the eyes

and foot, i.e., when the eyes and foot move to the right, the line seems to move to the left. When the eyes and foot move to the left, the line seems to move to the right. Note that this is done easily, without any hesitation or discomfort.

When you walk, you can imagine that you are looking at the right foot as you step forward with that foot. When you step forward with the left foot, you can imagine that you are looking at your left foot. This can be done in a slow walk or quite rapidly while running straight ahead or in a circle.

CHAPTER X

ERRORS OF REFRACTION

MYOPIA

Definition : Myopia has been called near-sightedness, because, in this case, the vision is usually very good for objects which are seen at a near point, while very dim or blurred for objects at ten feet or farther. The eyes are habitually focussed for a point about twelve inches or less. In high degrees of myopia, the eyes may be focussed at less than twelve inches, ten, six, three inches or nearer to the eyes. Some patients can read fine print when held two to three inches. In myopia, the eye-ball is elongated.

Acute Myopia : When myopia is acquired, it is called acute myopia in the early stages. When treated at this time, it is readily curable without glasses. The practice of prescribing glasses in these cases leads to a permanent use of them.

Progressive Myopia : In these cases, the myopia increases quite rapidly, and may be accompanied by much discomfort, pain, fatigue and loss of vision. In advanced cases, many become unable to see even with very strong glasses, and can even see better without glasses.

Complicated Myopia : myopia may be complicated with cataract or other eye diseases.

Myopia usually occurs at about twelve years of age. It is rarely congenital. Some become myopic at the age of four, fifteen, seventy or any age, earlier or later. Some children with normal vision may go through life without even becoming myopic.

It is a popular belief that a habitual use of the eyes for reading, sewing, or for any other use at a near point promotes the increase of myopia and that individuals who use their eyes repeatedly for distant vision suffer less from myopia.

But simultaneous retinoscopy always demonstrates that near use of the eyes—even under a strain in a poor light—instead of producing myopia, always lessens it or corrects it altogether; and that a strain to see at a distance always produces myopia.

It can be shown (1) that a strain to see at a distance produces near-sightedness. Look at a Snellen test card at twenty feet and read it as well as you can. Now strain or make an effort to see it better, and note that the sight, instead of becoming better, becomes actually worse. (2) That a strain to see at a near point does not increase near-sightedness, but always lessens it. Look at a card of fine print at six inches from your eyes and read it as well as you can. Now make an effort to see it better, and note that your vision for the near point is lowered, while the ability to read the fine print at a greater distance is improved.

CAUSE

Principal Cause: The principal cause of myopia is staring or making an effort to see at distant objects.

Contributing Causes : Teachers, parents or others, who use glasses, are under a strain. This strain is contagious, and the children under their care are more apt to acquire myopia than those who are under the care of teachers with normal eyes and normal sight. Constant use of glasses increases myopia. Common sense tells us that as the sight of a myopic patient is good at the near point, the use of glasses will naturally increase the strain.

Treatment : Keep in your mind a few facts and practise as instructed in the preceding chapters.

1. All patients who desire to be cured of imperfect sight should discard their glasses and never put them on again for any emergencies.

2. Some cases are benefited after other methods have failed by showing the patients how to make their sight worse by staring, straining or making effort to see. When the cause of the imperfect sight of myopia becomes known, the vision often improves to a considerable degree. When myopic patients learn by actual demonstration the cause of their trouble, it becomes possible for them to improve their sight.

3. Rest of the eyes and mind is the cure for myopia. Any effort to improve the vision always fails. Quite frequently it is difficult for people with imperfect sight to believe that perfect sight requires no effort and that any effort to improve the sight is wrong. It causes habitual strain and it becomes difficult to improve such patients within a short period.

4. Learn first blinking and keeping the lids lowered. If you can make these two fundamentals perfect, then it would be easy for you to improve the eye-sight.

5. Practising with a familiar Snellen Test Card is one of the quickest methods of curing myopia temporarily or permanently. The more perfectly the letters of the Snellen Test Card are remembered or imagined, the more completely is the myopia relieved.

6. Children under twelve years of age who have never worn glasses are usually temporarily cured by alternately reading the Snellen Test Card and resting their eyes by palming.

7. Encourage all myopic patients to read the finest print by blinking and keeping the sight on the white spaces. It is a mistake to stop their near work.

8. Some persons with imperfect sight have good imagination, but still their sight is imperfect. Such persons with imperfect sight who have good imagination fail to use it perfectly all the time ; they suppress it and imagine things imperfectly by an effort which of course lowers their vision.

9. Myopia requires regular and faithful practice. Even when the sight comes to a normal condition, one should continue the practice for some time longer to prevent a relapse. Then one should read the chart daily and stop practice. This will keep him aware about his sight. Whenever there will be any relapse, the patient will correct it himself.

CASE REPORTS

The following case reports are only specimens of many more that are equally interesting.

1. On February 13th, 1934, Swami Arjun Deva aged about thirty years, arrived at the Clinic from Hardwar. The patient could not say whether he was actually born short-sighted, it was discovered at the age of five when he found his distant vision defective. Time passed on without any treatment. At the age of fifteen, he was taken to Dr. Joshi at Nagpur and he was advised to use glasses of -5.0 .

The patient continued to pay periodical visits to the best available eye specialists in Agra, Lucknow, Lahore, Ahmedabad, Bombay, Mogha, etc., and every two or three years, he had to have his spectacles changed for a stronger pair, until at the age of twenty, he was prescribed glasses of -16.0 for both eyes.

The doctors were of opinion that he should discard his studies and, eventually, he left studies altogether after passing the matriculation.

At the age of twenty-two, he left his home in search of some cure for his eyes, and wandered about from place to place. His general health was affected by diabetes. His sight was getting worse and worse. The flying flies appeared before the eyes and this trouble was very annoying to him. Somebody suggested to him to gaze at the sun with open eyes. This increased the discomfort and a new trouble arose. Whenever he stared at an object, the object became distorted and tripled. In the room, everything seemed to

be covered with a veil. When he stared at a lamp or a candle, the black and white streaks began to spread on all sides. During this time, he paid visits to an eye specialist of Lahore, and the doctor made it clear to him that the sight was getting worse and prescribed the glasses of -20.0 at the age of thirty. But the glasses neither relieved the troubles nor improved the vision sufficiently.

His sight was rapidly failing. It was a difficulty to read or write anything, despite the enormously powerful glasses he was wearing. He had pains in the head at the slightest attempt to look at anything clearly. No hope of improvement came from any side. Days like a long endless night began to pass. The patient had no further hopes and resigned himself to his fate and waited for death to visit as soon as possible.

One day, the patient happened to see my article on "Throw away your glasses," in the "Hindustan Times." The article encouraged him and gave a ray of hope of recovery.

His vision in both eyes was $5/200$ without glasses and $20/200$ with glasses.

With each eye separately, he could not read any letter because soon the letters became double and adopted such a form that he could not distinguish them.

Treatment : The first thing I advised the patient was to keep his eyes closed for the most of the time. The position of the lids should always remain downwards ; while seeing in front or upwards, the lids should not be raised, but the chin, *i.e.*, the position of the lids

should be all the time like that at the time of reading. Now, I demonstrated its efficacy on the chart. When the patient looked at the chart while raising the lids, the letters became dim, but when he raised the chin, and lowered the lids, the letters became clearer. Everybody can demonstrate this fact. Keeping the lids raised is generally seen in myopes and, unless this defect is corrected, it is very difficult to give any benefit to the patient. Lowering the lids gives rest to the eye, while raising the lids causes strain.

The next thing and very important one was blinking.

For a week, I advised the patient to practise these two fundamental secrets of the cure. After three days, his neck muscles began to ache due to raising the chin all the time. In a week's time, the patient formed a permanent habit, and this was really the secret of his cure. Patients, who cannot obtain this habit of right blinking and lowering the lids are not benefited permanently.

The trouble of polyopia disappeared and the flying spots appeared only when the patient saw towards a bright light or when he unconsciously stopped blinking.

Second week : I find that myopic patients improve their sight and are cured more quickly by standing near a window and looking off in the distance at large signs or background. The patient stands with the feet about 12 inches apart before the window and turns the body to the right—at the same time lifting the heel of the left foot. The head and the eyes move with the body. The left heel is then placed on the floor ; the body

is turned to the left as the patient raises the heel of the right foot. I usually advise the patients to do this right and left swing for sufficient time. In this swing, the nearer objects appear to be moving in the opposite direction, while the farther objects move in the same direction. Some people have difficulty in practising the swing successfully. They cannot imagine the stationary objects to be moving, no matter how much swing is practised. They feel absolutely certain that the stationary object is always stationary and cannot be expected to move when the body sways from side to side in a long or short movement. My patient became able to imagine the objects moving from the very beginning and this helped him much in improving the sight.

At the end of the second week, I tested the sight and the vision improved to 10/120, but soon the letters became double. At once I asked him to close the eyes and to the right of him I placed the test card on the wall. I called the patient to come to ten feet distance from the card. I directed him to blink as he moved his body to the right and to flash the letter on the test card that he could see without making an effort of any kind. I explained that the letters could be seen best by looking a little above or below it, or a little to the left or right of it. He said that he could see the letters more clearly when he followed my suggestion, and that the letters almost disappeared, or became double when he looked directly at the letter. This method taught him how to see the objects.

Now, from the third week: I gave him sun treatment along with swinging. Both morning and evening,

he faced the sun with closed eye-lids and then move the body from side to side, like a cobra for thirty minutes each time. Just after sun treatment, he washed the eyes with the lotion "ophthalgo" and then began practising swinging. The sun proved to be a miracle in his case. Daily the vision showed improvement and at the end of the third week, the vision was 20/40 without glasses.

Now, the patient had no difficulty in going about, and seeking distant objects. He had grown anxious to improve the reading sight at an early date. Swamiji was a good writer. Seeing his interest in this direction, I directed the methods to improve the near sight. For distant sight, he continued the same practices till he left the hospital on 2nd April, 1934.

To improve the near sight, I gave him the fundamental reading card and asked him to hold it at nine inches and then move the head $\frac{1}{4}$ inch from side to side while looking at the white spaces in between the lines of print, and at the same time to imagine the white lines in between the lines of print to be moving in the opposite direction. Blinking should be at least twice on each line. He could easily do it and then he practised on the books. Then, after three days, I asked him to read the letters and words by blinking on each word. To improve more, he took the help of the sun and now he could read the fine print.

Writing was also difficult task for him. I asked him to draw only lines like $\Delta\Delta$ moving the sight up and down with the point of the pen, blinking on each line. After a few days' practice, he could read and write very well.

2. His Excellency of Nepal began to use glasses of -5.0 from the age of 8 years, and paid periodical visits to best available eye specialists in India and England, and every now and then he had to have his spectacles changed for a stronger pair until at the age of 48 he was prescribed glasses of -8.0 . The last doctor had informed him that the vision was very poor even with glasses; and, though the number of glasses came to -12.0 yet the vision was the same with -8.0 or with -12.0 , hence he thought it better to prescribe the glasses of lower power. The sight was rapidly failing in spite of the constant use of glasses. No hope of improvement came from any side

His Excellency came to know about me and my system of treatment through his relative and called me at Nepal. The examination revealed the following facts :

Vision Test	Without glasses.		With glasses.	
	Distant Vision	Near Vision	Distant Vision	Near Vision
Both eyes	$\frac{20}{200}$	J 3 at 9 inches.	$\frac{20}{70}$	J 1 at 9 inches.
Right eye	$\frac{10}{200}$	J 4 at 9 inches.	$\frac{20}{300}$	J 2 at 9 inches.
Left eye	$\frac{20}{200}$	J 3 at 9 inches.	$\frac{20}{70}$	J 1 at 9 inches.

Treatment : First I educated him blinking and advised to keep the eyes closed all the time as far as possible, and to open the eyes only slightly (half open) in

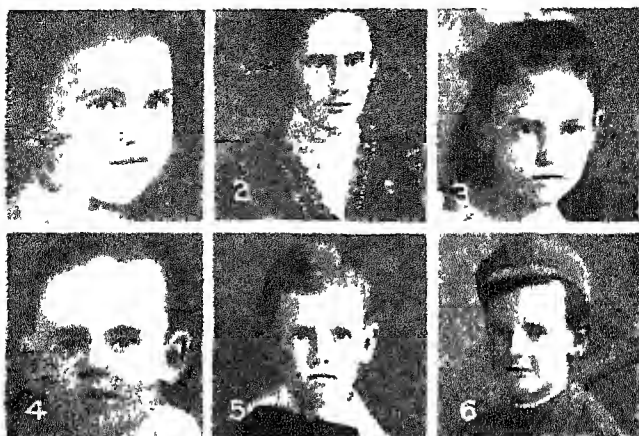


Photo taken from Dr. Bates' book.

A Family Group Strikingly Illustrating the Effect of the Mind Upon the Vision.

No. 1. Girl of four with normal eyes.

No. 2. The child's mother with myopia.

No. 3. The same girl at nine with myopia. Note that her expression has completely changed, and now is exactly like her mothers.

No. 4, 5, 6. The girl's brother at two, six, and eight. His eyes are normal in all three pictures.

The girl has either inherited her mother's disposition to take things hard, or has been injuriously affected by her personality of strain. The boy has escaped both influences. In view of the prevailing theories about the relation of heredity to myopia, this picture is particularly interesting.



HIGH MYOPIA

"You have brought down my error of refraction from -7 1/2 (Left eye) and -8 (Right eye) by one and a half dioptries. My eyes are not so sensitive to glare.....".
Dr. H. D. Dasture Retd. Civil Surgeon, Baroda.

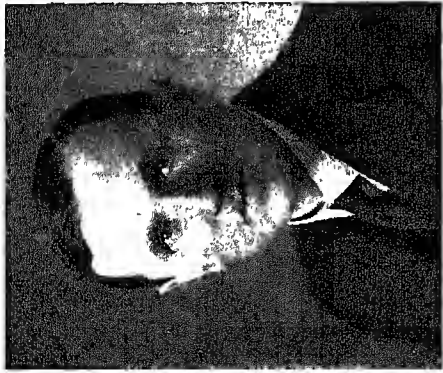


2. ASTIGMATISM

1. The eye-exercises cured the boy within a month's time.
2. A Doctor patient used to suffer from headache and eye strain frequently, changed glasses 15 times. By right education of the eye he became all right.



1. HYPERMETROPIA



THE HON'BLE SIR A. G. CLOW.

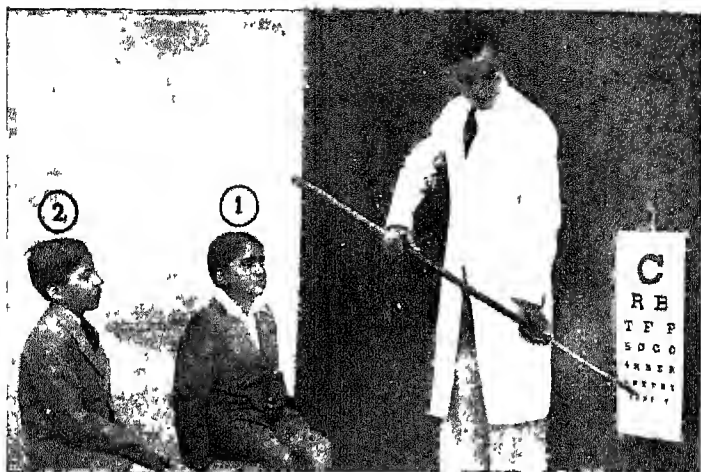
C.S.I., C.I.E., I.C.S., writes :—

"I have been much impressed both by the soundness of Dr Agarwal's treatment and by his disinterested philanthropic work. I wish him all success in the new venture which is starting....." A. G. CLOW.



THE HON'BLE SIR G. BEWOOR,
Director-General of P. and T.

"Dr. Agarwal has been treating me and my daughter for over a month and we have found his methods scientific and helpful. We have both benefited from the treatment and are continuing it." G. BEWOOR.



Two nearly blind boys were cured by sun treatment and eye exercises

Note the correct position of their eyelids and chin. They are practising central fixation on the eye test card



Fig 1

Fig 2

Fig 3

Fig 1. Circular Swing—Thumb moving in a circle on the finger.

Fig. 2. Chin Swing—Finger placed below the chin and then moving the chin from side to side.

Fig. 3. Letter in air—Drawing the letter in the air with the finger (See page 124)

SUN TREATMENT



Condensing the sun rays
with sun-glass on the
closed eye.

Facing the strong light
with the eyes closed.

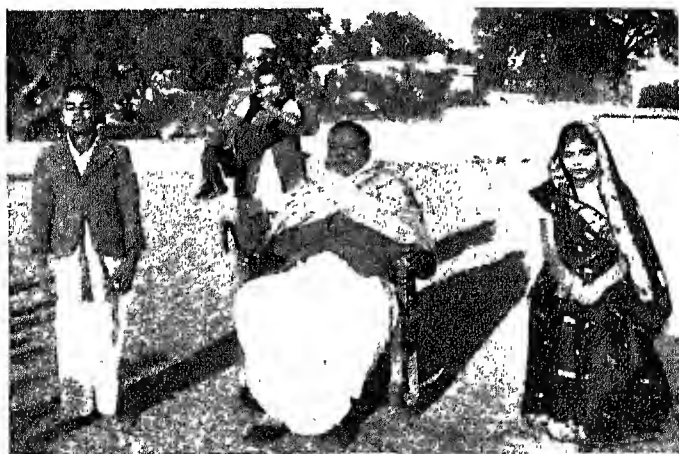


Sun rays falling on the everted eye lids of a trachoma
patient

SUN-TREATMENT



Patients are enjoying Sun treatment at Dr. Agarwal's Eye Institute.



Patients are enjoying sun treatment outside the Institute in the open ground.

SUN TREATMENT



Focussing the sun rays with a strong sun-glass on the exposed white part of the eye, called sclera. Read Exposure treatment page 59.

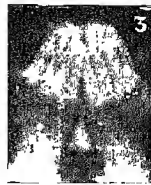
EYE-BATH



Wrong way—Raising the eyes and the eye cup and moving the lids in it vigorously.

Right way—Lowering the lids and the eye cup and moving the lids in it very gently as in blinking.

PALMING



Wrong ways.

1. Closing the eyes by squeezing them.
2. Pressing the eyes with the fingers.
3. Covering the eyes with the palm-heels.

Right way.

1. Closing the eyes gently, and covering the eyes with the palms.

(Fingers crossed on forehead)



Palming

This boy was blind with one eye since birth, and was cured in a month's time by Palming,

case of necessity , and to keep the body swinging gently from side to side all the time.

At bed time, little warm cow's cream was applied on the eyes.

Morning and evening :

(a) Sun treatment and massage of forehead with oleum. The patient faced the sun with the eyes closed and moved the body gently from side to side for 15 minutes. At this time, I used to rub little oleum on the forehead and then massage the forehead in the following way :

Forehead Massage: Place the left hand gently on the head and the right hand fingers (index, middle and ring fingers) on the forehead. Ask the patient to keep the eyes closed and move gently from side to side. The fingers remain in position. The patient feels the fingers to be moving in the opposite direction. At intervals, the patient is asked to keep the imagination on the fingers. After a few minutes only, the patient feels relaxed and begins to doze. All headache and strain are relieved in no time.

Mistakes : 1. Pressure on the head may be much.
2. The patient may not keep the imagination on the fingers but remember some other episodes.

3. There may be some noise or something else which may disturb the patient's mind.

4. The instructor may begin to move the fingers with the movement of the patient.

5. The patient may begin to move with jerks and strain.

This massage was given while H. E. took sun-treatment.

(b) After finishing sun treatment and massage, the eyes were washed with cold water and 20 drops of Ophthalmol.

(c) After finishing the eye bath, H. E. practised *Touch Swing* and swinging exercises before the bars and chart. Right methods of reading and writing were educated.

25th Nov. It was the last day of treatment. The following directions were laid down for His Excellency :

Directions 1. Use of glasses only to see distant objects when necessity arises.

2. Dark glasses should not be used. If it is too bright, then Crooks A may be used.

3. Near work should be done without glasses at the convenient distance.

4. Remember three points to avoid the strain :

a. Upper lids should remain down.

b. Gentle blinking all the time.

c. Imagine stationary objects moving in the opposite direction while walking or riding.

5. Whenever there is heaviness in the forehead or eyes, close the eyes and practise touch swing for a few minutes.

6. Sun-treatment, eye wash and touch swing should be practised daily morning and evening.

7. Write the condition of the eyes to the doctor every fortnight.

Now, the record of vision was again taken. The following are the results which were taken on 25th March '36.

Without Glasses.

	D. V.	N. V.
B. E.	$\frac{20}{100}$	J 2 at 9 inches.
R. E.	$\frac{20}{200}$	J 3 at 9 inches.
L. E.	$\frac{20}{100}$	J 2 at 9 inches.

With Glasses.

B. E.	$\frac{20}{30}$	J 1 at 9 inches.
R. E.	$\frac{20}{70}$	J 1 at 9 inches.
L. E.	$\frac{20}{30}$	J 1 at 9 inches.

Now, the vision was much better. The eyes could open very well and could easily stand for the bright lights. There was no difficulty in the daily routine without glasses. The expression of the face looked brighter. Others also could note that the eyes looked much better. His Highness had remarked: "Your eyes seem to have much improved."

After six months, I was again called to give another course of treatment, for one month. In the morning, I put him on sun-treatment, forehead massage, eye-wash, palming and swinging exercise No. 5. Gradually

the vision of each eye went on improving and the results were:—

Without Glasses

R. E.		$\frac{20}{40}$		J 1 at 9 inches
L. E.		$\frac{20}{30}$		J 1 at 9 inches

With Glasses

R. E.		$\frac{20}{30}$		J 1 at 12 inches
L. E.		$\frac{20}{20}$		J 1 at 12 inches

After two years, His Excellency wrote that his vision was so good that he could shoot at a long distance without glasses. His Excellency wrote in his remark:

"I was using glasses of—8.0....It is simply marvellous that, within a short time, the visual power of my eyes has wonderfully increased...."

"My daughter, who was using glasses of —3.0 cylindrical, was able to discard the glasses and to gain normal vision after 6 days' treatment." (Nov. 1935).

"This time, the vision improved still further. From 20 ft. distance, I have been able to read 30 ft. line without glasses, and 20 ft. line with glasses. The right eye had very poor chances of its improvement, but it has now improved to the level of the left eye. My relative had blindness in his right eye, and was all right in a week's time.

"In the interest of suffering humanity, I feel it my duty to give expression to my deep sense of gratitude to Dr. Agarwal...." (July, 1936).

3. A male patient, aged 18 of—3½ was able to read only one letter of pocket eye testing chart E

without glasses, that is, his vision was $\frac{5}{80}$. First I demonstrated how to blink, then gave sun-treatment for 15 minutes and asked him to practise palming for 10 minutes. While palming, he could imagine perfectly. When he opened his eyes, he began to read the next lines of the chart. When he began to read the third line of the chart, he began to stare, so I asked him to close his eyes and palm again. After 5 minutes palming, he began to read the chart again. I asked him to close the eyes for a second after reading each letter and palm for 2 minutes after reading each line. This checked his staring. In half an hour's practice, he was able to read five feet line from five feet, vision became $\frac{5}{6}$, that is, normal.

This improvement gave him great encouragement and he continued the practices for several months but was unable to make the improvement permanent. The reason was that he could not keep the lids in right position and could not blink frequently at other times. He could relax perfectly only at the time of practice. Then he wanted to give up the practices and use glasses. So I advised him to use -3.0 glass for distance only, and practise sun-treatment and palming every morning to check further deterioration.

4. A male patient, aged 23 began to use glasses of -1.5 from the age of 13, and the number gradually went on increasing to -7.0, in spite of constant use of specs. He stayed in the clinic for 10 days as an indoor patient. From the first day, he kept the lids down, did not try to look up or in front, and blinked frequently just in the normal way. One day, his friend came to see him. While talking, he looked at the ground and not at his friend. He explained to his friend that

this position of lids checks strain, helps in the improvement of vision and I should follow my doctor. The patient wrote "Blink Blink" on several pieces of card-boards and put them on the table, walls and on his coat. This helped him to blink all the time.

With closed eyes, his imagination was poor, so I put him on swinging exercises. Glasses were discarded permanently. Vision began to improve and he was able to read fifty feet line J, C, G, O at 10 ft. distance and the vision was $\frac{10}{80}$. After 2 years, he wrote, "I had been quite regular in my practices. Recently, I got my eyes tested by the local doctor, who prescribed glasses of -2.5. As I am still unable to see distinctly at the black-board in the college, I want to use glasses for distance only, but I would not give up my practices."

5. A college student, using glasses of -5.5, wanted treatment. I used to attend him at his residence. I advised him not to use glasses at all. His vision was $\frac{10}{100}$ without glasses and $\frac{10}{80}$ with glasses. By sun treatment, palming and swinging, he was able to read $\frac{10}{80}$ on the very first day and felt his head and eyes very light. In the noon, he went to the college for about an hour and could not check the temptation of using glasses. When he returned home, he got severe headache. Next day, when he described his story, I said that it was a great mistake and it would be difficult now to improve due to severe reaction. After five days' trial, the patient did not show any good improvement and the case was given up.

6. A girl had myopic astigmatism and was using glasses of -3.0 cylindrical. She was able to imagine a

black dot at varying distances. Game of ball was a great help. Sun-treatment relieved the glare. After six day's treatment, she gained normal vision and discarded the glasses permanently. At times, specially in dim light, she felt her distant sight defective, but she overcame this defect by the imagination of "O."

Game of Ball: Sit by the side of a table. Cover the eyes with the left hand. Roll a wooden ball on the table to the opposite side. Someone helps from the opposite side. Concentrate the mind on the sound which is produced when the ball rolls. Catch the ball when it comes to your side, by hearing its sound. After playing for a few minutes, remove the left hand, read the chart while still playing with the ball. Repeat several times.

7. A school teacher was using glasses of -2.5 and was very anxious to discard them. His thoughts were distorted and it was impossible for him to practise with concentration. While palming or swinging, he had such thoughts as one generally has in dreams. I changed his exercises every now and then and he tried the treatment for one month regularly, but did not show any improvement. Improvement in such cases is generally not possible due to lack of good imagination.

8. Anna, a lovely girl of 10 used to stare and complained to her mother that she could not see the letters on the black-board in the class-room clearly. She had myopia and was able to read thirty feet line at 10 ft. distance. When she read the chart, she did not blink even once and bent her head forward.

First, I taught her blinking and instructed her

mother to put her under sun-treatment, palming and chart reading. After one week, her mother brought her for an eye examination, but Amna did not show any improvement. I said to Amna, "If you learn to blink all the time, your eye-sight will be all right within a week." Her mother said, "Amna, you will get a prize if you can learn blinking." Amna promised to learn blinking. This time, I advised Amna to practise swinging before bars for 10 minutes four times a day. This exercise was like a game to her and she liked it much. Amna did not come on the seventh day, as her mother was very busy in other affairs. Then, I called Amna on the telephone and enquired how she was. She replied, "I am all right now and can read 10 ft. line at 20 ft. distance. I said,} "How did you improve so much within a few days?" She replied, "Because now I blink." Since then, Amna blinks all the time and educates other children to blink. Her mother was very grateful for the benefit and presented a cheque of Rs. 101 for the Institute.

9. One student was wearing glasses of -4.0 and the vision was $\frac{30}{80}$. He was ready to discard the glasses permanently and practise faithfully. He could read finest print at six inches, but central fixation was poor, that is, he could not see each letter or word regarded blacker than the rest. First, I put him on central fixation series and improved his central fixation at six inches, because at this distance, his vision was best. Then I placed a Snellen test card at 1 foot to practise central fixation and gradually increased its distance to 10 feet according to the progress in central fixation. Occasionally, he practised palming and swinging. On the tenth day,

his vision was $\frac{10}{80}$. Then he went away home and informed me after three months that he could read now 20 ft. line at 20 feet distance.

10. A student had myopia of about—3.0 in the right eye and —3.5 in the left eye with little cylinder. The vision was $\frac{20}{80}$ in each eye. By sun-treatment and palming, he improved his sight to $\frac{20}{70}$.

Then, I put the chart at three feet and asked him to practise central fixation. When he looked at the top of C, he noted the bottom of C worse, and *vice-versa*. By frequent palming, he could practise central fixation on the seventh line (2, Q, C, O, G, D, E, C). Next step was to imagine a black dot in the bottom part of each letter. When he was able to imagine the dot, the letter became blacker and began to pulsate up and down or from side to side. Gradually, the distance of the chart was increased to ten feet and the sight improved to $\frac{10}{80}$. Beyond this, he began to strain. I changed the practice and asked him to read the photo print at six inches and the big chart at 12 feet alternately, or look at the tip of the finger at six inches and the chart at 12 feet alternately.

During palming, he could not get good relaxation, so I suggested to him, "Imagine a black screen, and place a white handkerchief on this black screen. Place the letter T in the centre of the handkerchief and imagine as if the letter T does drill. When it stretches the arms up, it becomes Y, and then again assumes its position of T. When it brings the right arm down and stretches it to the left, it becomes F. He could perfectly imagine like this, and the vision improved to $\frac{10}{80}$ or $\frac{20}{80}$.

CHAPTER XI

ERRORS REFRACTION

HYPERMETROPIA AND PRESBYOPIA

Symptoms : The vision at the near point is usually poor. Hypermetropia may cause much pain, headache, fatigue and other nervous troubles. In middle age, serious eye diseases are caused by hypermetropia. Among the most common are glaucoma, cataract and diseases of the optic nerve and retina. In the early stages of these serious diseases, they are more rapidly curable than after they become chronic and more serious, because the vision is only slightly affected and the treatment which cures the hypermetropia is the treatment which prevents serious eye diseases. It should be emphasized that early treatment of hypermetropia yields quicker, more permanent results than later treatment.

Treatment.—In studying hypermetropia, it is interesting to consider the conclusions of well-known ophthalmologists. One prominent doctor was asked this question, “Is hypermetropia curable?” He replied that it was not curable. He was then asked, “Why do you claim that no one can cure hypermetropia?” He answered, “I know that it cannot be cured because I was unable to succeed and if I cannot succeed no one else can.”

Massage of the eye-lids has been recommended for the cure of hypermetropia. Another doctor claimed

that he was able to cure a majority of cases of hypermetropia, and that if the patient was not cured by massage, no other doctor in the world could succeed. Other physicians, however, did not believe that massage was a cure of hypermetropia.

All measures, which prevent strain and promote relaxation, are always beneficial. A strain at a near point always increases the amount of hypermetropia or produces it in the normal eye while strain to see at a distance lessens hypermetropia and the vision may improve and continue to improve until myopia is produced, when the vision is lowered. Some patients stare towards the moon. Out of them, those who are hypermetropic improve; but those who are myopic become more defective. If distant sight is good, central fixation exercises will be sufficient to improve the near sight. If distant sight is also defective, first improve the distant vision by swinging exercises and palming. Blinking on white lines and reading of fine print card with a card hole during the course of treatment prove very helpful. Kite flying, shooting, tennis, running are good exercises.

Case Reports.

1. A boy of nine years had difficulty in reading his book. An eye specialist prescribed glasses of +6.0 for each eye. The father did not like the idea of putting spectacles on the face of the young child, so he brought him to me for treatment. I prescribed sun-treatment, palming and reading of Snellen eye chart and reading test type. The boy practised under the care of his father morning and evening for half an hour. Within a month's time, eye-sight became normal both for distance and near.

2. A college student was wearing glasses of $+5\frac{1}{2}$ constantly. One of his doctor friends told him that he might suffer from glaucoma in his old age. He came for my opinion. I said, "It may become true." If you would go under my treatment, you would improve your eye-sight. Without glasses, his vision of each eye was $\frac{20}{70}$ for distance, and No. 1 on fundamental card for near.

He attended the clinic daily for 20 days and repeated the following programme every day :

1. Apply Resolvent 200 with a rod in each eye.
2. Sun-treatment for 15 minutes.
3. Eye-wash with cold water.
4. Palming for 5 minutes.
5. Swinging before bars with both eyes for 10 minutes.
6. Central fixation exercises for 20 minutes.
7. Reading of distant chart for 5 minutes.
8. Reading of reading test type and book for 10 minutes.

He repeated the same programme at his home.

After twenty days, his vision was—

R. E. $\frac{20}{80}$, No. 6 of fundamental card

L. E. $\frac{20}{80}$, No. 6 of fundamental card

The patient had to study for some competitive examination and wanted glasses, so glasses of $+2\frac{1}{2}$ for reading only were prescribed and he was able to read more easily than his former glasses. He continued

sun-treatment, palming and reading of the fundamental card daily for 20 minutes.

3. A young female patient complained to her doctor that she felt pain in the eye-balls and heaviness in the head while doing sewing and needle work. The doctor prescribed glasses of $+0.75$ for each eye; but she got no relief. She again went to the doctor who advised her to continue the same glasses for sometime. When she found no benefit, she came to my clinic. The examination revealed that she had normal sight both for distance and near. Then I gave her a needle and thread to sew in my presence. While sewing, she neither blinked nor shifted her sight with the movement of the needle, but stared continuously at the stitches. I demonstrated the right method of sewing. At first, she showed shyness and felt little difficulty, but then soon brought it into her habit, and did sewing for an hour without any discomfort. Since then, she made no complaint about her eyes.

4. Mr. Gupta, a college student used to feel eye-strain and headache in reading. Sometimes reading of a page became difficult. He used glasses of $+0.5$ with little cylinder under the advice of an eye specialist, for several months. He could read 20 feet line at twenty feet distance, and finest print at one foot distance. First, I taught him to blink on the white lines in between the lines of print and he repeated this exercise on 10 pages several times a day. After 3 days, I gave him a pocket C card to practise central fixation. On the sixth day, I asked him to keep his sight on the white line just below a word and imagine it blacker, and finish 2 pages

in this way. From the seventh day, he began reading his book with a card hole. On the tenth day, he read his book for hours together without any discomfort. He put a question ;

Q. How is it I got eye-strain while reading though my sight was normal, and how did central fixation help me so much ?

A. Your eyes tried to see many a word at a glance and this caused strain. Central fixation taught your eyes to see each word at a time.

5. A male patient used to get severe pain in his right eye for 5 years. The pain usually increased in reading to such an extent that even few minutes' reading was not possible. The doctors prescribed plus glasses which could not stop the pain. The patient had to discontinue his studies.

His vision was normal both for distance and near. For a few days, I put him on swinging exercise, which gave relief and the pain became much less. Then I asked him to practise central fixation on "C" chart, pocket size, and blink on white lines imagining the letters above the white line blacker. Then I gave a photoprint card to read with both eyes and each eye separately. The patient was totally relieved of the trouble and was able to read for hours without feeling any strain.

The cause of severe pain in right eye was loss of central fixation while reading. When the eye began to see the letters with central fixation, the strain was relieved.

PRESBYOPIA OR OLD AGE SIGHT

Presbyopia or old age sight occurs in people after the age of forty. Although the sight may be good for distant vision, it is always poor at a near point.

When a person with presbyopia tries to read fine print and fails, the focus is always pushed farther away than it was before the attempt was made, indicating that the failure was caused by strain. Even the thought of making such an effort will produce strain, so that the refraction may be changed, and pain, discomfort and fatigue produced, before the fine print is regarded.

Glasses, by neutralizing the effect of the imperfect action of the muscles, may enable the patient to read; but they cannot relieve any of these strains. On the contrary, they usually make them worse, and it is a matter of common experience that the vision declines rapidly after the patient begins to wear the glasses. When people put on glasses, because they cannot read fine print, they often find that in a couple of weeks they are unable to read without glasses the fine print that was perfectly plain to them before.

Treatment: Presbyopia is cured just as any other error of refraction is cured by rest. But there is a great difference in the way patients respond to this treatment. Some are cured very quickly, even in as short a time as fifteen minutes; others are very slow; but as a rule, relief is obtained within a reasonable period. While it is sometimes very difficult to cure presbyopia, it is fortunately very easy to prevent it. Persons, whose sight is beginning to fail at the near point, or who are

approaching the presbyopic age, can easily be cured simply by reading the fine print daily both morning and evening as close to the eyes as possible. Sun-treatment, palming, blinking on white lines are a great help in curing presbyopia. Central fixation practices have proved very beneficial. Alternate reading of distant chart and reading rest type prove very helpful. While reading, imagine as if letters are written in dark black ink. Imagination of black dot is an advantage. When a patient looks at the white spaces between the lines ordinary book type, he can read for hours and no fatigue, pain or discomfort is felt. When discomfort and pain in the eyes is felt while reading, it is because the patient is looking directly at the letters.

Causes of Failure

1. A very common cause of failure is to look at the black letters and to pay no attention to the white spaces between the lines. Sometimes the imagination of the white spaces may be improved sufficiently so that one begins to read fine print, and almost immediately the vision is lost, because of the great temptation to look at the letters.
2. The patient stops blinking.
3. When people imagine the white spaces or white line, they close their eyes for too short a time, and when they open them, they are very apt to keep them open too long a time. It is really remarkable how difficult it is for some people to close their eyes for part of a minute and then open them for just a second.
4. Some patients while imagining the white line or

spaces, test their eye-sight. Testing the sight causes strain which always lowers the vision.

5. After some of the tests, the patients ask questions or make statements which show they pay no attention whatever to the direction for avoiding strain. Such patients are not benefited.

6. Many patients seem to be bewildered by all sorts of things they have heard about presbyopia.

7. Others have a bad habit of outlining their own plan of treatment.

Case Reports

1. One highly educated gentleman of fifty five-years of age had worn glasses since the age of forty. His distant vision was normal, 10/10 with each eye separately. Then I gave him the reading test type. He held it at arm's length and began to read upto No. 5; but when I asked him to bring it closer to twelve inches, he could read only No. 1 and 2 without glasses. I told him not to worry about the reading; but to see only the white lines in between the lines of fine print by blinking. After finishing the white lines each time read one line from above. After reading each line from above he shifted to the white lines of the fine print. The treatment lasted for about thirty-five minutes. Soon he became able to read No. 6 at one foot distance. Then by the help of sun-treatment and palming, he read the fine print.

2. Another patient of about sixty years was wearing glasses of plus five. His sight was tested on the test

sun-treatment and palming. The vision began to improve rapidly both for distance and near. On the fifth day, his vision was as follows :

Right eye = 10/20, No. 8 of fundamental card

Left eye = 10/30, No. 5 of fundamental card.

The gratitude of Mr. Sinha was profound and he has since then proved a loyal friend to this treatment. Very recently, he wrote to me in his letter that he consulted the famous eye specialist of Patna who was of opinion that the right eye was normal and the left eye had cataract. Further, Mr. Sinha wrote that he could read the finest print of the reading test type at one foot distance without the aid of glasses, and the 10 ft. line from 10 feet distance with his good eye. As he had to do much reading work, it was difficult for him to keep up the relaxation, so glasses of +2.5 were prescribed for reading. Cataract developed in the left eye because he neglected to practise with each eye separately.

4. A patient of fifty was using glasses of +1.5. Distant sight was good. He could read No. 4 of fundamental card at 12 inches without glasses. While reading, some letters appeared in the form of many like a penumbra. When he made the eye little open by squeezing the lids or looked through a small hole made in the hand or paper, he could read fine print clearly. He was under the impression that the defect in his eye due to some change in the lens was permanent and he put this question :

Q. Why do I see clearly through a small hole if the decline in vision is permanent at my age ?

A. When you see through a small hole, the rays are centred. If you can improve the sensitiveness of macula lutea to that extent that it may not allow distortion of the rays, you will be able to read as clearly as through a hole. The sensitiveness of macula lutea is improved by central fixation.

Sun-treatment was not a help in his case, but he used to take sun-treatment in the morning for a few minutes. Frequent practices of central fixation enabled him to read photo-print within a few months. At times, during his office work, he used to relax his eyes by looking at the sky or by reading a chart hanged in his room at about fifteen feet.

CHAPTER XII

ERRORS OF REFRACTION

ASTIGMATISM

The study of astigmatism is important because of its frequency and because so many serious eye diseases are preceded by astigmatism. The eye doctors tell their patients that in order to prevent serious eye diseases, glasses should be worn constantly. Such patients, accordingly, become much worried and are in constant fear of serious eye trouble developing, and probable blindness resulting. It is true that the glasses prescribed may give temporary relief; but no patient is benefited very much by the use of glasses.

Occurrence: Astigmatism is the most common defect of the human eye. Most people with astigmatism have had it since birth. In some cases, it may increase, while in other cases, it may become less or entirely disappear. Astigmatism is usually combined with hypermetropia or myopia. Some cases of astigmatism are due to imperfect curvature of the lens, or less frequently to a malformation of the eye-ball.

Symptoms: When a high degree of astigmatism is present, the vision is appreciably lowered. Usually when vertical lines are regarded, they may appear more distinct than the horizontal lines, or the reverse may be the case. This is, however, not a reliable test because patients with normal vision do not always see vertical or horizontal lines equally well.

Many patients with astigmatism complain of headaches and pain in various parts of the head and eyes. Some patients have said that when their eyes become tired or when they feel uncomfortable in any way, they get relief by removing the glasses. One patient after wearing glasses for a few days, complained that every morning, when he put his glasses on, the pain in his head increased very much, and that, after wearing glasses for a few hours, the pain was partially relieved. His doctor told him that he needed to wear the glasses several weeks before his eyes could get used to them. The patient then told him that he had come to have glasses fitted to his eyes, and not his eyes fitted to glasses.

Cause : Astigmatism is caused by mental strain or an effort to see, either consciously or unconsciously. It has been demonstrated that astigmatism can be produced by staring or straining to see. The normal eye with normal sight, normal memory or normal imagination has no astigmatism, but when the normal eye remembers or imagines imperfectly, the retinoscope shows the presence of astigmatism.

Pain in the eyes and the head can always be produced in the normal eye by straining or making an effort to see. Such headaches disappear promptly when relaxation methods are employed.

Treatment : Astigmatism is caused by mental strain and can only be cured by complete relief of the strain.

Patients suffering from various forms of the astigmatism are benefited by practising central fixation, swinging, improving memory and sun-treatment.

For the correction of astigmatism, we should consider favourable conditions, which promote the best vision. Some patients with astigmatism, perhaps the majority, prefer bright light. They can see better in the strong sunlight and the astigmatism becomes less than when the light is dim. Other patients with astigmatism see better, and the astigmatism becomes less or disappears in a dim light, while it may be very much increased in a bright light. Some patients give good results on black chart while others on white chart. The patient should practise on the chart on which he gets better results. For the improvement of near sight, central fixation series are very helpful and for distant sight swinging generally is very beneficial.

Case Reports

A boy of sixteen was treated by me for the relief of eye troubles, caused by compound hypermetropic astigmatism. Sunlight caused great discomfort to him and he suffered from headache. He also complained of seeing floating specks. He was not able to read his books for any length of time without pain and fatigue. His distant vision was also imperfect. He went to different eye doctors for the relief of the eye troubles. Each doctor prescribed a different number for his glasses; but no one could help him in relieving the trouble.

I tested his sight without glasses. The vision of the right eye was 10/100 and the vision of the left eye was 10/70. He could not read any print of the reading test type, and as he tried to read wrinkles appeared on his forehead and cheeks.

The first treatment was to give him sun-treatment in the early morning for 10 to 30 minutes and then he palmed for 10 minutes continuously. After three days practice he felt himself better. Then I educated him in blinking for about fifteen minutes. Distant buildings seen through the window appeared to move slightly with him, while the window and its bars moved rapidly opposite. Whenever he stopped blinking to see the things better, the movement of objects became less or stopped altogether and this caused discomfort. I told him to close the eyes at once for a few minutes whenever he felt discomfort. He continued this swaying practice daily for four or five times. Swinging helped him very much in relieving all kinds of his discomforts, the vision also improved both for distance and near. Seven days later his vision as noted by the test card had improved to 10/20 and the letters were clearer and distinct. I gave him a reading test type to hold in his hand. He could read No. 5 of fundamentals easily.

Along with the sway, he practised sun-treatment and palming daily. Just after palming he practised on the reading test type. After a fortnight he became able to read the fine print. Daily he was advised to write the whole reading test type five times.

2. A girl of eighteen came to me for treatment. She began to use glasses from the age of seven for slight convergent squint in the left eye. At the age of fifteen no squint was appreciable, but she could produce it by effort. Her doctor changed the glasses and prescribed a lower number. Since then she was using

this number. She was using glasses of simple myopic astigmatism.

I examined her thoroughly in the dark room and on the test card; and found that she was suffering from simple hypermetropic astigmatism and not with simple myopic astigmatism. Her vision on the test card was 10/5, and she could read only No. 5 of the reading test type. She felt pain and headache whenever she read sometime.

I demonstrated blinking to her for some minutes and then asked her to glance at the white spaces in between the words for two days. During these two days she finished about 100 pages, glancing at white spaces and felt no trouble. Then on the third day I gave her the test type, and she read the whole of it. It was very pleasing to her. Then I gave the reduced photographic type; she felt her eyes tired. I asked her to palm for 10 minutes and the eyes became very restful.

3. Another girl aged twelve, daughter of a civil surgeon, was suffering from compound myopic astigmatism. She was using glasses for five years. Her vision was 10/100 with each eye separately and with both eyes together. In every case blinking and lowering the lids are the first instructions to be given. I asked her to practise the sway before the window for four days continuously four times a day each time devoting half an hour. She practised the sway very well both with closed, and open eyes. On the fifth day I examined her again on the test card, her vision was 10/40 this day.

Then I advised her to take the sun-treatment, before practising the sway. The sun helped her very much. By the twelfth day her vision improved to 10/15.

4. A student aged seventeen wanted to be treated for mixed astigmatism by correspondence. He had studied my literature very well. I agreed to give him the treatment by correspondence, because he was a boy and could not come from Deccan to my office. He had great faith in my treatment. The glasses that he was using gave him pain. With the aid of palming, swinging, and the use of his imagination, his vision improved to normal. Each letter contained many pages, full of questions. It is very unusual for such patients to obtain such quick cure by correspondence.

5. A patient, a European girl of seventeen complained of feeling of dust and glare in the sun, dimness before the eyes when she came from the light into the shade, sight defective both for distance and near, frequent headache and heaviness in the eyes. An eye specialist had prescribed the following glasses:

Right eye.— + 0.75 Spherical with + 0.5 Cylindrical

Left eye.— + 2.5 Spherical with + 0.5 Cylindrical

After using these glasses for six months she threw them away as they did not relieve her complaints and disfigured the face.

On the advice of her friend, she attended my clinic on January 2, 1940, with her father who is the primeminister in a state. The examination revealed the following facts:

1. Distant Vision of right eye = $\frac{10}{40}$
 Distant Vision of left eye : : = $\frac{10}{300}$

Near Vision of right eye at 9 inches = No. 7 of
Fundamental Card.

Near Vision of left eye at 9 inches = No. 2 of
Fundamental card.

2. No improvement with glasses.
3. Field of vision much contracted in both eyes.
4. No deficiency of Vitamin A, as indicated by
Bio-Photometer.
5. No Organic defect.

I prescribed the following treatment which she daily carried out at home and in the clinic:

1. Sun-treatment with eye-wash.
2. Palming for 5 minutes.
3. Swinging exercises.
4. Reading the Chart at 10 feet and reading test type at 9 inches.
5. At times central fixation exercises and game of snap.

After 20 days' treatment the right eye became normal, and the left eye improved to $\frac{1}{10}$. She was able to read No. 7 of fundamental card with left eye. Field of vision became normal in each eye. All other complaints disappeared.

The attention was concentrated, now, on the left eye. I advised her to cover the good eye with an eye-shield for most of the time, and continue the exercises with the left eye. The improvement was steady, and after two months treatment, left eye also became normal. She used to read photo-print with each eye.

CHAPTER XIII

FLOATING SPECKS

MUSCAE VOLITANTES

Floating specks or flying flies is a very common phenomena of imperfect sight. These floating specks are usually strings of black thread or small light-coloured globules resembling tears. Floating specks may be apparently a quarter of an inch or more in size and they may be of any shape. They move somewhat rapidly, usually in curves, before the eyes. If one tries to look at them directly, they seem to move a little farther away. Hence their name, flying flies.

General Belief about its Causation

1. Due to presence of dead cells or the debris of cells in the vitreous humour.
2. Might be caused by the passage of tears over the cornea.
3. Due to disturbances of blood circulation, digestion and the kidney.

True Cause.—The truth is that the cause of the floating specks is purely mental strain. When a patient stares or strains to see, by looking at a light-coloured surface, he may see, or imagine he sees, floating specks. Imperfect memory causes floating specks before the eyes. Persons with normal vision, who have never

been conscious of floating specks, can be taught how to imagine them by straining—to imagine letters, colours or other objects imperfectly.

The ability to see or imagine floating specks may occur in children or in adults of any age. Floating specks are so common in myopia that they are supposed to be one of the symptoms of this condition, although they occur also with other errors of refraction, as well as in eyes otherwise normal.

Treatment.—In the treatment of floating specks, it is important to convince the patient thoroughly that they are only imagined and not seen. It helps very much to impress on the patient's mind that to see these floating specks requires a sufficient strain; one has to use a perfect imagination of all objects seen, remembered or imagined at all times and in all places.

Blinking and swinging prove very beneficial. While regarding any object move your sight from one part to another. Several patients have been benefited simply by blinking and lowering the lids and shifting the sight from one part to another.

A patient came to me from Lucknow. He used to see the objects distorted (metamorphopsia). The floating specks remained before the eyes. The patient was suffering from myopic astigmatism. He had consulted many eye specialists about these discomforts. Glasses improved the sight, but did not relieve the discomforts. Blinking, lowering the lids, sun-treatment and shifting helped him very much. It was a very

interesting case to observe. Whenever he stopped blinking and raised the lids and tried to stare, the objects became distorted, the floating specks appeared before the eyes; but as soon as he continued blinking and shifted his sight from one point to another, all these troubles were relieved.

Another patient, aged about fifty-five years, suspected cataract in his eyes. He used to see floating specks before the eyes and it was very annoying to him. His doctor had told him that it was due to cataract. I examined his eyes thoroughly with the ophthalmoscope. The patient had no cataract. It was simply a case of strain. The relaxation methods cured him very quickly.

CHAPTER XIV

SQUINT AND DOUBLE VISION

Since we have two eyes, it is obvious that in the act of sight two pictures must be formed; and in order that these two pictures shall be fused into one by the mind, it is necessary that there shall be perfect harmony of action between the two organs of vision. In looking at a distant object the two visual axes must be parallel, and in looking at an object at a less distance than infinity, which for practical purposes is less than twenty feet, they must converge to exactly the same degree. The absence of this harmony of action is known as "Squint" or "Strabismus" and is one of the most distressing of eye defects, not only because of the lowering of vision involved, but because the want of symmetry in the most expressive feature of the face, which results from it, has a most unpleasant effect upon the personal appearance.

Divergent squint Eye turns out.

Convergent squint : Eye turns in.

Vertical squint : Eye may look too high or too low

Alternating squint : When the above conditions change from one eye to another, and sometimes the character of the squint changes in the same eye,

Sometimes the patient is conscious of seeing two images of the object regarded, and sometimes he is not.

Usually there is a lowering of vision in the deviating eye which cannot be improved by glasses, and for which no apparent or sufficient cause can be found. This condition is known as amblyopia. It is very common, and more prevalent among children than adults.

Cause.—There are many theories about squint described in the test-books. They seem to fit some cases but leave others un-explained, and all the methods of treatment are admitted to be very uncertain in their results.

The idea that the squint is due to lack of harmony in the strength of the eye muscles that turn the eyes to various directions seems such a natural one that this theory was almost universally accepted at one time. Operations based upon it once had a great vogue; but to-day they are advised by most authorities only as a last resort.

The true cause of squint is a mental strain. Internal squint is produced by a different strain from the one which turns the eyes out, upward or downward. Double vision is produced by a mental strain different from that which lowers the vision or causes fatigue, pain or dizziness. Normal eyes have been taught to produce consciously all kinds of squint at will. This requires an effort which is variable in its intensity.

The fact suggests that since squint in all its manifestations can be produced at will, it should be considered curable by eye education. It is a well-known fact that many persons, including children, can learn how to produce squint and become able to relieve permanently all

the varied symptoms of squint. The success of the operative treatment is very uncertain.

Treatment of Young children.—1. Children of six years, or younger, can usually be cured of squint by the use of atropine, a one per cent. solution being utilised into one or both eyes twice a day for many months, a year, or longer. The atropine makes it more difficult for the child to see, and makes the sunlight disagreeable. In order to overcome this handicap, it has to practise relaxation, and relaxation cures the squint.

2. Mothers or nurses should cover the eyes of the babies while milking them, because the babies move their eyes in the opposite direction to the movement of their heads. For example, when they lie to the left, they move their eyes to the right in order to see something. They should be milked from both the sides for it causes equal balancing of the eyes.

3. Children should be kept apart from children or other persons who have squint.

4. Sway the babies in a regular and gentle swing from side to side.

5. The cradle is a good help.

6. The game of hide and seek is a very interesting game for children and can be enjoyed for long periods with great benefit.

7. Swinging the body in a circular direction (like dancing) hastens the cure. Or the child may be held strongly enough by an adult to lift his feet from the

floor and then swing the child in a circular way, and at the same time, the child is encouraged to look upward as much as possible. The little patients always seem to enjoy this form of exercise.

8. Games of all kinds have been practised with much benefit to the squint in children. Different games have been described in the cure of amblyopia.

9. Teaching the children with squint the names of the different colours at a near or greater distance is of benefit. In the beginning, the size of the colours may need to be large to help the memory, imagination or sight. As the sight improves, the child becomes able to distinguish the colours of very small objects. One may need to spend half an hour or longer daily for some weeks in order to improve the vision for colours to the maximum.

10. Using the poor eye with squint for a period of time each day while the good eye is covered with a patch is of benefit to the poor eye and lessens the squint.

Children do not like to wear a patch, because no one likes to have the good eye covered for a length of time. At first the patch would be worn for five minutes each day and then the time gradually increased until the patient is able to wear the patch all day long.

11. Numbers and letters of the alphabet can also be taught to the child who has squint. Then every morning and evening the test card should be read with both eyes together and then with the poor eye alone, having the good eye covered with the palm or the patch.

12. Blinking and palming prove very efficient. If the child cannot palm himself, the mother may put her hand or the child's hands on the eyes and then talk about pleasant things with the child.

13. Cases of squint should be kept under the supervision of one who has good sight. No one with imperfect sight ought to try to help such cases at home because it cannot be done successfully. The unconscious strain which is evident when the sight is not perfect always produces more strain in the squint cases which are under treatment.

14. Swinging and palming to be combined in a swinging game in which two children join hands and swing with music. Children should look at the ceiling while they swing. At times they disconnect their hands, stop the swing, and palm. Beneficial for all the pupils.

15. Game with splints. Keep the E or 'Pot-hook' eye card hanging in the room. Have children sit at a table 10 or 14 feet from this eye card, and facing it. Request children to make a picture with splints of the fourth line or any other line of characters on the card. When reading this E card the child may indicate which way each 'E' points, by the splint or by finger.

For Grown up children and others

1. Blinking and Palming are very helpful in each case.

2. Patch—Some patients are benefited by wearing a patch over the good eye, so that the patient is compelled to use the squinting eye for vision.

3. Swinging: All most all cases of squint are benefited by swinging practice. They can be taught to imagine, while good eye is covered, that stationary objects are moving. In cases where the swing of stationary object is not readily accomplished, any of the following methods may be effective:

a. The forefinger is held about six inches in front of the face, and a short distance to one side. By looking straight ahead and moving the head side to side, the finger appears to move. This movement of the finger is greater than the movement of objects at the distance, but, by practice, patients become able to imagine not only the finger to be moving, but also distant objects as well.

b. The patient may stand about two feet to one side of a table on which an open book is placed. When he steps one or two paces forward, the book and the table appear to move backward. When he takes two or more steps backward the table and the book appear to move forward.

c. The patient stands in front of a window and looks at the distant objects. By swinging the body from side to side, the window and its bars may be imagined to be moving from side to side, in the opposite direction to the movement of the body, and the more distant objects appear to move in the same direction in which he moves his head and eyes.

d. The patient stands ten feet or less from the Snellen test card and looks to the right side of the room, five feet or more from the card. When he looks to the

right, the card is always to the left of where he is looking. When he looks to the left side of the room the card is to the right of where he is looking. By alternately looking from one side of the card to the other, the patient becomes able to imagine that when he looks to the right everything in the room moves to the left. When he looks to the left, everything in the room appears to move to the right. After some practice, he becomes able to imagine that the card is moving in the opposite direction to the movement of the eyes. This movement can be shortened by shortening the movement of the eyes from side to side.

4. Practice with a familiar card, or a card whose letters are remembered, is one of the best methods known for curing the imperfect sight of squint and the squint itself.

5. Some patients of squint see best where they are not looking. To cure this condition (eccentric fixation) central fixation practices should be practised. The patient is told to look at the first letter on the line of the Snellen test card at some distance, and to note that the letters toward the right end of the line are blurred or not seen at all. By alternately shifting from the beginning of the line to the end of the line and back again, the vision is usually improved, because eccentric fixation is lessened by this practice. Sometimes, it is necessary for the instructor to stand behind the card and watch the eyes of the patient. The instructor directs the patient to look down when he sees that the patient is looking too far up.

6. If the usual treatment of squint fails, it is well

to teach such cases to see double. In many cases of squint the patient sees double images. These cases are more readily cured. This suggests that the persons who have squint may be taught how to produce double vision.

When the right eye turns in towards the nose and the left eye is straight, the letter or other object seen by the left or normal eye, is seen straight ahead, while the image seen by the right or squinting eye is suppressed by an effort and is not seen at all. To teach the patient to see with both eyes at the same time requires much time and patience. When double vision obtained, the image seen by the right eye is to the right, while image seen by the left eye is to the left. We say that the images are seen on the same side as the eye which sees them. With the eyes closed, the patient is taught to imagine a letter, object or a light to be double, each imagined to be on the same side as the eye with which the patient imagines he sees it. With an effort, two images may be made to separate to any desired extent. By repeatedly imagining the double images with the eye closed, the patient becomes able, with the eyes open, to imagine the double images to be separated a few inches or less, a foot apart or further.

Patients become able not only to imagine images with the eyes closed, apparently seen on the same side as the eye which imagines them, but also to imagine crossed images, that is the right eye image is imagined to the left, while the left eye image is imagined to the right. With one or both eyes turned in each of the double images is imagined on the same side as the eye which imagines it. When the images are crossed, the divergent squint is corrected and the eyes turn in.

It is well to practise the production and the control of the crossed images in cases of divergent squint. It is interesting to observe how quickly two images can be made to cross, to approach each other and form one. By practising the production of crossed images for a considerable time each day, the crossed images become consciously, habitually or permanently crossed when a cure is obtained.

Imagination of the images on the same side is helpful in cases of convergent squint.

One can produce all forms of vertical, internal or external squint, and this process helps in the cure of squint. Direct the patient to close the eyes and place the fingers lightly on the outside of the closed eyelids. With the help of the imagination of the candle images one can move the right eye in, while the left eye remains straight and *vice versa*. The right eye imagines the image to the left while the left eye imagines the image to the same side. The patient can produce every imaginable form of squint with the eyes closed better than the eyes open. With the eyes open, later, one becomes able to produce squint in flashes or temporarily and then more continuously. It is interesting to tell by the sense of touch whether the eye was looking in, out, down, up or straight.

7. Patients with internal squint can be cured by teaching them how to practise divergent squint, either with the eyes open or with the eyes closed.

8. Cases of divergent squint are benefited by look-

ing at the tip of the nose or point of the pencil held at the nose.

9. As soon as the patient gains sufficient mental control to remember a perfectly black dot, squint disappears. Permanent cure is a matter of making this temporary state permanent.

10. One of the best ways of gaining mental control in cases of squint is to learn how to increase the squint, or produce other kinds of squint, voluntarily.

Double Vision

When the eye regards two images of one object, it is called double vision or diplopia.

Homonymous Diplopia: When the image seen by the right eye is to the right of the image seen by the left eye.

Crossed Diplopia: When the image seen by the right eye is to the left of the other image. Generally, convergent squint is present in such cases.

Cause: Eye strain, which is a mental phenomena, is capable of producing in the eyes two images (diplopia), many images (polyopia). The strain which causes double vision is different from other strains. Even normal eyes, if taught to produce double vision, can produce double vision. This suggests that the strain is the cause of the double vision and relaxation is its cure.

How to Produce Double Vision

1. If one will press the lower lid of the eye with the forefinger, while both eyes are open, one can immediately produce two objects where there is only one. The harder the pressure against the lower lid, the further away the one object moves from the other. One is real and the other is, of course, an illusion. It is a good practice to do consciously where one is troubled with double vision. When double vision becomes worse consciously, one is very likely to become able to cure this defect sooner than is expected. One can imagine how the patient must have strained his eye in order to produce the double vision constantly, not only while the patient was at work but at all times while he was awake.

2. Imagine two lights, one directly above the other, at an angle of 90 degrees. When the strain will be sufficient, the two lights would be seen on the horizontal plane. With the help of the strain, the two images can be seen at an angle of 45 degrees, 60 degrees or 75 degrees. In short, one can produce double images close together or double images farther apart and at any angle.

3. To produce double images, one above the other, look at a light about ten feet away and strain to see a small letter just below it at an angle of 90 degrees.

4. Look above a light, or a letter, and then try to see it as well as when directly regarded. If the strain is strong enough, you can produce not only

double images but an illusion of several lights, or letters (polyopia), arranged vertically. If the strain is still great enough, there may be as many as a dozen of them. By looking to the side of the light or letter, or looking away obliquely at any angle, the images can be made to arrange themselves horizontally or obliquely at any angle.

5. Most patients can see or imagine double vision by practising with a lighted candle or other object. When one is practising with a candle at twenty feet, two candles can be imagined five feet apart or one foot apart. If the objects are on the same level, they can usually be controlled much better than when one is higher than the other. In a case of convergent squint, it is quite easy to imagine the two objects as they should be imagined; the image of the right eye should be to the right, the image of the left eye should be to the left. When the two images are on separate levels, it is well to practise so as to attain two images on the same level. This makes it easier to control the two images in other directions.

By alternately regarding the images without effort or strain, they will approach each other until they touch, overlap or become fused into one object. Then more practice should be done with the object of obtaining control of the location. By forms of effort the image of the right eye may be forced to the right. This should be practised for half an hour or longer, forcing the images seen by each eye to approach crossed. At first, the images are not controlled, they may cross and separate a wide distance, three feet or even six feet.

Treatment—Blinking is a good help, because, generally, one or the other eye remains fixed.

2. Imagination of stationary objects to be moving is very important. Long swing practised with both eyes open, and then with the good eye covered. is very helpful.

3. Patients should be educated how to see objects. One should drift the sight from one point to another of the object and imagine that to be moving in the opposite direction.

4. Palming practised several times a day.

5. Other relaxation methods may also be tried with benefit.

6. The good eye may be kept covered with a patch for some time.

7. If the patient does not improve, educate him how to produce double vision consciously and make the condition worse.

8. If the patient sees the letters double while reading, educate him in the correct way of reading and writing.

9. In cases of squint, treat the squint.

Case Reports

1. Mr. Brijmohanlal, a famous jeweller of Agra, while returning from Europe, suffered from double vision. When he reached India, the trouble increased. He

consulted different eye-specialists in India. The doctors thought that the double vision might be due to paresis of external eye muscles; and that the paresis might be due to some toxin in the body. They reported the vision to be normal. They gave twenty-seven injections in the arm for the cure of double vision, but the disease became worse. I examined him very thoroughly. The vision was normal, but I marked that at certain time, the eye changed into a different shape and became blind. To know whether the double vision was due to strain or not, I asked him to shift his eyes from one side to the other and blink while seeing any object. I placed my fountain pen before him. Now he shifted his sight from the top to the bottom and from the bottom to the top, and noticed that the pen jumped up and down. I asked him whether he saw the pen double. He said, "No."

"Now stop blinking and stare towards the pen," I said. "It is double now," he replied.

On certain other things, I demonstrated the fact that the cause of double vision was simply staring. He agreed with my view and knew it perfectly that the cause of the disease was simply the wrong use of the eyes and not the paresis of the muscles. Shifting and swinging, sun treatment and palming helped him very much. In a week's time, he became much better. Later, I received a letter from him that he had improved still more and now rarely got double vision.

(2) Many persons complained that they see two moons or more; and when they look at some objects for suf-

ficient time, it becomes double and pain is felt in the eyes and head. Generally, the cause of this trouble is that people stare at objects with the lids raised, and do not blink at all. I have demonstrated this fact in several cases. Recently, a patient consulted me about double vision. He used to keep his lids raised all the time. Blinking was altogether absent. I taught him to keep the lids lowered always and blink frequently. I put the Snellen chart before him at 15 feet distance and asked him to look at C by raising the lids and by lowering the lids. Soon, he reported that the letter became double when he raised the lids but became single when he lowered the lids. He learned soon the secret of his cure, followed it sincerely and no more trouble remained in his eyes.

3. A child of $1\frac{1}{2}$ yrs. had convergent squint in both the eyes. By atropin drops and swinging games, the child's eyes became all right in $1\frac{1}{2}$ years.

4. A baby of six months had convergent squint in the right eye. I advised its father to drop atropin in the left eye once a day. After a few days, the father complained that the baby got fever and flushed face after atropin drops. So I prescribed atropin ointment. After six months, the baby's eye was all right.

5. Kanta, a girl of 13 years, suffered from small-pox at the age of 10. Due to some eye trouble, her left eye remained under bandage for a few months. When the bandage was removed, squint was noticed in the left eye.

Her father took the girl to the eye specialists and

glasses were prescribed. But glasses caused more strain and the squint increased.

Vision was $\frac{10}{80}$ in the right eye and $\frac{10}{100}$ in the left eye.

The following treatment was prescribed :

Morning and evening :

a. Take sun treatment for 10 minutes, eye wash, palming for 5 minutes, swinging before bars for 10 minutes with each eye, and reading of the chart at 10 ft. with each eye.

b. Cover the right eye with a patch for half an hour three times a day.

c. Drop atropin $\frac{1}{2}\%$ in the right eye.

d. Stop reading or other near work

After a month, squint disappeared, but when she was excited, squint appeared. The vision of right eye was $\frac{10}{80}$ and of the left eye $\frac{10}{60}$.

6. Sushila, a girl of 7, had squint and amblyopia in the left eye. Game of hide and seek, running in a circle, long swing, facing the chart with right eye bandaged, central fixation on big chart with left eye helped her much. The result was that in 10 days' time, the squint disappeared completely and also the vision improved.

7. A lady of 20 had high myopic astigmatism and divergent squint in the right eye. The left eye had little myopic astigmatism. The patient first discarded

the glasses permanently and then began to practise sun treatment, palming, reading of photographic print, imagination of crossed images of the candle. Staring at distant objects was avoided.

During the course of treatment, the patient reported that palming and over blinking caused strain, and that she could see more letters on the white chart C than on the black chart E. Sun treatment also caused great strain and whenever she took sun treatment, the squint increased. In swinging from side to side, she lost her muscle balance; but in swinging from up and down, she always felt relief. Central fixation exercises were really a great help to her in the cure of squint. At times she took a pencil in hand at arm's length and brought it to the nose, while looking at the top end of the pencil with left eye covered.

The treatment was continued for about 2 years. The squint disappeared, but occasionally, when she was excited or somebody began to talk from the right side, the squint appeared.



Photo taken from Dr. Bates' book.

**Case of Divergent Vertical Squint Cured
by Eye Education.**

- No. 1. The right eye turns out and up, the left being straight.
- No. 2. The patient learns to look down and out with the left eye while the right looks straight
- No. 3. The patient learns to turn both eyes in by looking at a pencil held over the bridge of the nose.
- No. 4. The patient is permanently cured.

All four pictures were taken within fifteen minutes of each other, the patient having learned to reproduce the conditions represented at will.



Dr. S. Sinha Bar-at-Law, Patna.

"After having used glasses, and fairly strong one too, for now nearly eighteen years, I have been able to read, without the aid of glasses, the smallest type."—S. Sinha.



The Hon'ble Sir Girja Shanker Bajpai.

"Dr. Agarwal's methods appear to be based on ancient, if forgotten, Indian practice I wish him every success in work which is not only philanthropic but may prove to be a valuable contribution to Ophthalmic Science".—G.S. Bajpai.



Mr. Brij Mohan Lal who suffered from double vision and was cured by Bates methods.



SATYAWAN.

"Satyawand of Gurukul Kangri could not see his way properly after two weeks I found his sight normal." Capt. Ram Chandra (Retd.) Civil Surgeon.



Boy who was blind with his left eye since birth and was cured by palming.

CHAPTER XV

BLINDNESS

Brijmohan was ten years old when he first came to me with his uncle who is a friend of mine. At the age of eight years, it was noticed by the boy himself while playing the game of hide and seek (दाई मिचौनी) that he was blind with his left eye. Although he was immediately taken to eye-specialists of various places, he could not be cured, and the case was left as hopeless.

In May, 1931, the boy came to try this new treatment. With the test card, the vision of his right eye was 10/200, but the left eye had only light perception. This is a copy of his prescription for glasses, which he had worn during these two years :

R.E. - 1.0

L.E. + 1.0

I examined him with the ophthalmoscope and found the eye in normal state. The trouble was simply amblyopia in the left eye. While the examination was in progress, Brijoo's uncle was sorry because he was told by the doctors that Brijoo would always have to wear glasses to save the right eye ; that nothing more could be done for the left eye. After the examination was over, his uncle exclaimed breathlessly : " Isn't there any hope at all, Doctor, Please ? Oh, say there is." I did not promise anything. I study each case

that comes to me and help as much as I can. I explained the method of palming. By palming is meant to close the eyes and cover them with palms of the hands and shut out all the light; then to think of something. When I asked Brijmohan what he remembered while palming, he said, "I can remember very well the black beard of my teacher." At once a roar of laughter came out from all present at that time.

After palming for five minutes with the left eye, he became able to see the big letter of the chart, but as soon as the letter began to become dim, he closed and covered his eyes. By repetition, he could see the big letter at one foot distance on that day and left the hospital with a smile. It was a matter of great joy for me also, because a ray of hope appeared in a hopeless case. Two days later, the boy came again and with him came his uncle, eager to hear more of the miracle that happened to Brijoo. The same practice was continued. The vision jumped from $1/200$ to $2/200$ in the left eye.

On May 13th, the fifth day, Brijoo came with his grandfather, who was anxious about him. His grandfather stood by the side of his grandson and beamed with happiness as he saw his little boy's sight improve. He was thankful to see the rapid progress in Brijoo's sight. This day, after an hour's practice, there was wonderful change in his sight. The vision was $20/200$ in left eye and $20/20$ in right eye. Both went away smiling.

The sixth day was the last day of Brijoo's visit.

He was anxious to go home. This day, his vision became 20/60 in left eye and 20/20 in the right eye.

After one month, I saw Brijoo again. His vision was 20/30 after palming and he could read fine print.

(2) Another boy was blind with the right eye. He came to know of this blindness at the time of the medical examination of eyes in his school. I sat by his side and asked him to practise palming. His power of imagination was perfect. Whatever he imagined, he explained perfectly. He began to improve and after two hours' practice, he read the twenty feet line from twenty feet; and the fine print at nine inches distance. Such cases are very rare who respond to the treatment so quickly.

(3) Later, two boys came for treatment from Dehra Dun. Both of them were blind with one eye. Simply palming did not help much. Sun treatment, swinging and palming proved very beneficial in these cases. After about two months, they could read and write very well and had no difficulty in seeing distant objects with the blind eye.

(4) Prasanna Kumar, aged ten years, was medically examined by the Health Officer and was found to have slightly weak eye-sight. He was put under an eye specialist who after examining him under atropin prescribed glasses of +0.5, but the use of glasses made the condition worse. Frequent eye examinations under atropin increased the strain and the boy became more or less blind.

Having tested his sight, which was $3/60$ or $10/200$ for distance and J6 for reading. The Ophthalmoscope and retinoscope revealed every thing normal. I explained to the father that the blindness was simply functional due to strain and he would gain his normal sight within a short time by relaxation exercises.

The boy was taught first to correct the position of lids and blinking. Every morning, he practised sun treatment and palming. I brought the Snellen test card near him, and pointed to the letter "O" and asked him if he could imagine the letter with the eyes closed.

"Yes, I can imagine the letter 'O'," he said.

"All right," I said, "Imagine as if 'O' is moving away from you, and, as it moves, it becomes smaller and smaller."

"Yes, it moves and it is a tiny 'O' at fifteen feet. Now, it comes towards me and becomes bigger and bigger," he replied.

Next day, he could keep up the memory of tiny "O" while looking at different objects. Then, he imagined the tiny "O" on the top of each letter of the chart. Then, I asked the boy to shift his sight from side to side on the back-ground of each letter, and imagine small "O" on each side of the letter.

"Yes, I am able to imagine small "O" on each side of the letter of the chart, but I note one thing quite new. When I imagine 'O' to the right of the letter, the letter seems to be moving to the left and *vice versa*," he said.

Perfect imagination of "O" and of cricket game proved very beneficial in his case. On the fourteenth day, his sight became normal both for distance and near. His father took the boy to the same specialist who had examined him before and found the boy having normal sight.

(5) **BLIND BABY**,—A baby of six months showed an attitude of indifference to his parents when they looked at him. He did not gaze at the toys or candle light. The father, assuming that his eyes may be defective, took him to many doctors who declared the baby to be congenitally blind. The father came across to see my small pamphlet "Psycho-Solar Treatment for the Eye" and got some hope of recovery. He got the baby admitted in my hospital.

First, I got the baby treated for indigestion by some homeopathic doctor and then the following treatment was tried:

1. Sun treatment as given to the babies.
2. Swinging the baby in the cradle having a toy tied at the top of the cradle. Certain types of toys, which made some sound, were placed by his side.
3. In the night time, the candle was lighted in front of his eyes, or the baby was moved from side to side before one or two candle lights.

After a few days, the child began to show signs of improvement and, after twenty days, he began to behave as a normal baby.

CHAPTER XVI

CATARACT

The opacity of the lens or cataract is caused by strain in most of the cases. It is easy to cure or prevent the trouble in the early stage. Some cases can be benefited in the advanced stage also if the degenerative changes have not taken place.

Treatment which brings about relaxation always cures the cataract but after a considerable treatment which may require several months or longer. There are a great many methods of treatment which bring about relaxation in the cure of cataract. The measures employed are not injurious; in fact, there is no possibility of making the condition of the eye worse. I do believe in operations when necessary or when medical treatment fails to correct the trouble. The operation should only be performed when other measures fail because after all the operation is never free from danger.

It is well to emphasize the fact that the same method of treatment to obtain relaxation is not beneficial in all cases.

Rest.—Closing the eyes and resting them, or covering the closed eyelids with the palm of one or both hands without exerting any pressure on the eye-lids, has improved many patients. Palming for five minutes hourly is usually beneficial. With the eyes closed and covered, it is well that the patient allows his thoughts to drift from one thing to another without trying to remember

one thing in particular all the time. By thinking of pleasant things, it is often possible for the patient to forget that he has eyes and in this way a large amount of relaxation is obtained. Many people with cataract, when they close their eyes, feel that they are doing what they were told and cannot understand why they obtain little benefit. Closing the eyes is not always followed by relaxation and rest. In short, there are many patients with cataract who strain their eyes more when they are closed than they do when their eyes are open. These patients are directed to practise the universal swing, the long swing, the variable swing.

2. **Swinging.**—Swinging is very helpful in the cure of the patients standing or sitting. Some patients have practised the swing while sitting in a chair for many hours during the day. When tired, they would alternate with palming. When the swinging is done correctly, it is restful and a benefit not only to cataract, but to other conditions of the eye. By practising the swinging exercises, many patients soon become able to imagine stationary objects to be moving in the opposite direction to the movement of the head and eyes. A great benefit derived from the sway is that the stare, the strain and concentration are prevented. Babies with cataracts are benefitted when the mothers sway them in their arms.

3. **Memory and Imagination.**—Perfect memory is a great help in the cure of cataract. When the patient remembers some letter as well with the eyes open as with the eyes closed, the vision is improved, and the cataract disappears. When the patient stares, concentrates or makes an effort to see, the memory and

the imagination always become worse. Patients who cannot control the functions of the mind are difficult to treat. The patient himself and others can feel with the tips of their fingers lightly touching the closed upper eye-lids that the eye-ball becomes harder when imperfect sight is remembered. But when perfect sight is remembered, the eye-ball becomes as soft as is the case in the normal eye. Patients with a perfect memory, consciously or unconsciously, remember letters, colours and other objects continuously without any strain or fatigue. These cases are favourable and recover from cataract.

4. **Fine Print**—Some patients acquire the ability to read without glasses very fine print held a few inches from the face. When such patients are recommended to read the fine print many hours daily, the cataract becomes less and the vision improves.

5. **Sun Treatment.**—Patients with cataract seem to improve more decidedly from the light treatment than from any other kinds of treatment. Congenital cataract or cataract present from birth, is benefited and often cured in the same way. After cataract or cataract produced by an injury to the eye has improved and occasionally been cured by sun treatment. So often the light treatment benefited many kinds of cataract that the use of the light has been strongly recommended in all cases.

When taking the sun treatment, it is best to let the eyes become accustomed to the sun by mild treatment at first. Have the patient sit in a chair with his eyes closed and his face turned towards the sun. He should slowly move his head a short distance from side to side. The movement of the head prevents concentration

of the sun's rays on one part of the eye. After some days of the treatment, or when the patient becomes more accustomed to the light, one may use the sun-glass with added benefit. Direct the patient to look far down and while he does this, lift the upper lid gently, exposing to view the sclera or white part of the eye. Now, with the aid of the sun-glass, focus the sun-light on the forehead or the cheek, and then rapidly pass the concentrated light over various parts of the sclera. This requires less than a minute of time. It is not good to be in a hurry. One should wait until the patient becomes sufficiently accustomed to the sun to permit the upper eye lid to be raised while he looks down, exposing the sclera only. It is important that the patient be cautioned not to look directly at the sun.

Sun treatment, palming and reading of fine print daily have proved very beneficial in the prevention of cataract.

Senile Cataract : Mr. Shiam Lal, aged 66, of Delhi, had cataract in both the eyes—more in the right. The famous eye-specialists of Delhi advised him to have the right eye operated, and to wait for the left eye for about a year. The patient was fearful of operation. He came to me on the 20th January, 1935, to have my opinion. After a thorough examination, I found that the degenerative changes had not taken place in either eye. I said to him: "The left eye will become able to read the finest print and see distant objects well, but the right eye will improve so much as to avoid the necessity of operation." At the beginning of the treatment he could only perceive the movement of the fingers with the right eye, and with the left eye, he could read No. 4 of the Reading Test Type. In the beginning

of the treatment, the imagination of white line helped him much. Later on, sun treatment and palming proved very efficacious. He was taught the ways of reading and writing. His vision now is much better. He can read the finest type of the Reading Test Type with the left eye and the seventh line *z O C O G D C* of the Snellen test card C, pocket size, with the right eye. The patient is still under treatment.

A patient of fifty had early cataract and high myopia. Sun-treatment and central fixation exercises were a great help in curing his cataract and in the improvement of his sight.

After Cataract: A poor old man came to the hospital for cataract operation in the right eye. He had mature cataract, which was removed on second day. Unfortunately, a thin white layer, called capsule, remained inside the eye. The eye was bandaged. On the seventh day, the wound healed, the bandage was removed, but the patient could not see anything. The whole pupil was white. The patient felt very sorry. I asked him to come again after two months for another operation. At the same time, I gave him one medicine to be dropped into the eye after taking sun treatment twice daily, morning and evening. After one month, he returned. He could see everything. The whole pupil was perfectly black. He needed no operation. I was surprised to see the wonderful cure of nature. I asked him what he had done. He said: "I used to sit in the sun for one hour in the morning and for one hour in the evening, with closed eyes, and used to move my head and body from side as you said. Then I used to come to a and drop the medicine that you gave. For

seven days, there was no improvement in the vision, but after that, the vision improved little by little. I began to enjoy the sun for one and a half hours each time."

Another patient of the same type of after cataract was treated on the same lines. That case also was benefited and required no operation.

Black Cataract : A young man of about 32 years was blind in left eye. He came to the clinic. This was a case tried by many doctors. I examined him in the dark room thoroughly under atropine with the ophthalmoscope. The pupil was quite dark and gave no red reflex. This was a case of black cataract in the left eye. He suffered from no other disease like diabetes or kidney troubles.

I had no hope of his recovery without operation and I explained everything to him clearly ; the patient had great faith in me. He induced me to prescribe some medicine for him. On his request, I gave him one phial of Resolvent A to use after taking sun treatment both morning and evening. After one month, the patient returned again and said : "Doctor Saheb, I am very grateful to you. Your medicine acted like a magic. I can now read and write big letters. This medicine is finished, kindly give me one phial more."

I took out his ticket and was simply surprised to know that a case of black cataract was giving me such gratifying report. I examined him again and found that the pupil was not black now and gave a red reflex. Then I tested the vision. He could read 10/80.

The patient continued the treatment for some time more. The whole cataract had dissolved and his blind eye began once more to work very well.

CHAPTER XVII

DETACHMENT OF RETINA

In detachment of retina, some part of the retina becomes separated from the choroid to which it is normally attached, resulting in loss of vision or distorted vision. There are many predisposing causes of retinal detachment, apart from an accidental blow or a growth, by far the most common being that associated with high degree of myopia. Mental or ocular strain is the chief cause.

Treatment, The ordinary treatment usually resolves itself into either prolonged rest in bed in the hope that the retina may return to its place, or operation treatment by puncturing through the outer coating of the eye (sclera) behind the detachment. The most popular operation is diathermy treatment. Ball in his "*Modern Ophthalmology*" states :—

"The treatment of retinal detachment is unsatisfactory—in fact, almost a hopeless task. While in a few rare instances, the retina has become reattached spontaneously, and a few recoveries have followed prolonged rest on the back, with hypodermic injections of pilocarpin and the administration of saline purgatives, the majority of successful results thus far reported have been attributed to surgical intervention. All operations are dangerous. In detachment following myopia, the prognosis is unfavourable."

In the course of a life-time, most ophthalmologists have seen one or more cases of detachment which

recovered spontaneously or without any treatment. This fact suggests that if some patients recover without treatment, detachment is curable under certain conditions. Strain is the principal cause and relaxation is its treatment. Course of relaxation treatment may be taken in the following way :

First Week :—(1) Keep the eyes closed all the time. If necessary the good eye may be opened slightly. Avoid talking and worries. Care should be taken not to stoop or to raise oneself with undue suddenness or to lift heavy weights. It is better to remove oneself to some cool place if it is hot weather.

2. If the bowels are not clear, give saline purgatives or preferably senna decoction with milk or an enema

3. Morning and evening, massage the head with oil—one pound of sweet oil and half a dram of menthol.

4. At bed time apply warm milk cream on the closed eyes and bandage it.

5. Comfortably lie down in bed and palm.

6. While sitting, move your body gently and slowly from side to side like a pendulum and commence at the same time the practice of "touch swing." Rub first finger and the thumb of one hand very lightly—just sufficient to feel the sense of touch one against the other—for about a quarter of an inch stroke only. Make this slight touch stroke of the finger and thumb, keep rhythm with the swinging movement of the body and be conscious that the thumb moves with the body and the finger against it. There will now be two senses operating at the same time in rhythm:

- (a) the physical body-swaying movement.
- (b) the sense of touch with finger and thumb.

When the two senses are under easy continuous control together, the amount of the body movement may be shortened to imperceptible one. The nearer one can consciously attain continuous, almost infinitely small rhythm, sun the greater the relaxation, the greater the benefit to the eyes.

Second Week: All suggestions of the first week to be continued and add to them :

1. In the morning, when the sun is not at all hot, let the patient lie on the sun chair or sit on the stool, with the eyes closed and facing the sun for 10 to 30 minutes. At the same time, move the body or head gently and slowly from side to side. Then come to the shade with the eyes closed, wash and practise palming for a few minutes.

(2) After palming, practise the long-swing before the window bars.

Stand comfortably with the feet nine inches apart, hands hanging loosely at the sides of the body, facing the window bars. Keep the sight down on the back-ground. The eyes are little open. Sway the whole body sufficiently to one side (a few inches only) to poise its whole weight on one foot. Let it easily sway back until the whole weight is poised on the other foot. The eye sight moves on the ground with the movement of the body. There should be no effort to see the window bars. There should be no bending of the hips or neck. The head, shoulders and hips all

move together. The time taken in swaying should not be less than approximately 1 to 2 seconds each side. Practise it for a few minutes and get the easy sense of physical balance; then practise the same movement with the eyes closed until you can feel the same easy balance whether the eyes are open or closed, and note the following facts:

1. The window bars seem to be moving in the opposite direction, that is, when you move your body to the right, the bars seem to be moving to the left and *vice versa*.

2. The back-ground moves with the movement of the body. If the window with bars is not available, one can have a stand with bars or a chair with bars or an ordinary bed having bar-like rope arrangement.

Practise with both the eyes, and then with the bad eye, covering the good eye with a bandage or eye shade, and train the bad eye in the similar way. After every few minutes, the eye should be opened and closed. If the patient is not able to see the bars, the candles or thick bars may be substituted in the beginning. Repeat this swing every two hours for fifteen minutes three or four times a day. It can be practised while sitting on a stool also.

Third Week and Fourth Week: The whole programme of the second week is to be continued. The practice of the Snellen test card, preferably black, is to be added in the swinging practice before the bars. Generally the vision of the patient is better on a chart having white letters on the black background. Place such a chart behind the bars at 3 ft. or nearer. Practise

swinging as in the second week. Imagine the bars moving in the opposite direction and the lines of the chart in the same direction. First of all the sight moves at the level of the first line of the chart and then at the second line and so on, upto fifth or sixth line. When the letters of fifth or sixth line become clear, increase the distance of the chart by two inches gradually to 10 ft. distance. Avoid to read the letters of the chart while practising. At times the letters will become clear. At the end of the fourth week the sight is generally much improved, the field of vision is increased.

Cases which do not show good progress, indicate that they could not practise and relax the body and mind perfectly. Such patients should continue the practices of the second or third week for longer periods or should practise under the doctor.

Fifth Week and Sixth Week: After sleep: Before opening the eyes cover them with the palms of the hands for 5 to 10 minutes. Then open the eyes slightly, the eyelids should not be raised, and blink frequently all the time.

8 a.m. 1. Sun treatment and swinging as usual.

Draw straight lines, angular lines circular lines, write bold letters, small letters, composition. Practise with each eye separately. Note that the sight should move with the movement of the pen.

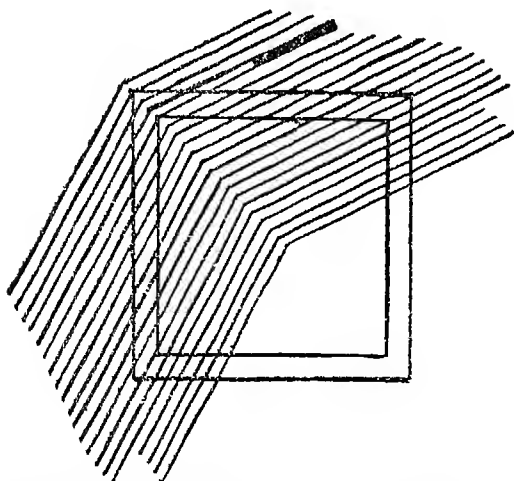
3. Take a book and hold it upside down, move the sight on the white line in between the lines of print for 5 to 10 minutes. Blink at each end of the line. After every two minutes close the eyes for a

minute and imagine the white snow, white pillow or white wash or as if you are painting the white lines on the blackboard with white paint and brush.

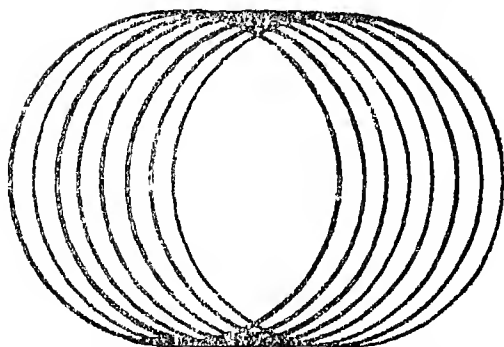
- 2 p. m. Play the game of Snap cards. Or
Paint a coloured picture. Or
Prepare clay toys. Or
Be familiar with Optical illusions.

Walk on the green grass in the shade, keeping the sight down and imagining the grass and side objects moving in the opposite direction.

Optical Illusion



The outline of the square appears distorted. Prove it is true square by slowly tilting the page backwards almost to the horizontal, then try and appreciate it as it really is, when looking direct.



The drawing of a group of rings forming a kind of skeleton tube. Attention focussed on either of the end circles will suggest that the near end of the tube is either on the right or the left as may be desired.

4 or 5 P.M. Repeat the practices of 8 a.m. Close both eyes or bad eye as soon as it becomes dark. At bed time apply Resolvent 200, palm and go to sleep. When you are sleeping nobody should wake you up suddenly.

Seventh Week and Eighth Week: After sleep—palming and walking on the green grass or on the garden road.

8 a.m. and 5 p.m. Last week's programme is to be repeated. Add central fixation and reading. Hold a pocket size Snellen test card at the convenient distance 6 inches to 12 inches. Look at each letter separately and note that the letter regarded seems to be blacker than the other letters. Close the eyes for a second on each letter. When you are able to see the whole

card in this way, take the book having good type. Keep your sight just below the line of letters or the words on the white blank space. The word regarded will seem to be blacker than the other words. Finish a few pages in this way.

After the eighth week when you are all right, continue sun treatment and swinging before the bars.

Similar treatment with some modifications has proved efficacious in improving the sight of patients suffering from retinitis, optic neuritis (papillitis) choroiditis and optic atrophy if the patient has not become totally blind.

Case Reports

(1) Mr. P. D. Krishna, age 42, male. Since boyhood using glasses of about—4.0. In December 1936, he consulted an eye specialist who prescribed bifocals—minus four for distance and—2.5 for near—which the patient used from 1st January '37. A few days later he began to note floating specks before the left eye. About the 20th January '37, noted that the vision of the left eye was getting weaker and sparks of light began to come before the eye. A dark speck existed at the lower outer corner of the left eye. On 23rd January these symptoms increased suddenly and the eye lost its vision. The specialists of Shroff Eye Hospital diagnosed "Detachment of retina in the upper outer quadrant where it is fairly deep. It is much shallower in the inner side." The doctors expressed their inability to cure the disease either by medicine or operation, but suggested diathermy operation, by the specialist of Bombay.

Somehow the patient attended my clinic on the 28th January, and I put him under relaxation treatment. From the first day he began to improve, the field of vision became nearly normal and the vision much improved. His vision in good light was—R. E. $3/12$, J 1 at 9 inches. L. E. $3/15$, J 3 at 9 inches.

The patient was not satisfied with this improvement, and went to Bombay to get some better treatment. The doctor did not advise operation but put him on sub-conjunctival injections. In due course of time all the improvement faded and the retina assumed atrophied condition.

(2) Mr. B. L. Rastogi began to use glasses of —1·0 since the tender age of thirteen. At the age of forty the number of glasses was—13·0. On the 9th October '33, in the afternoon, all on a sudden, he felt an absolute absence of visual power in the right eye while reading a paper. He remained under the treatment of two eye specialists of Patna for one month with no good result. Both the specialists diagnosed "Detachment of retina with hæmorrhage." I put the patient under the above-mentioned course of treatment with some modifications. After a month the patient gained his usual vision and became able to read the finest print. With glasses the vision became normal. The field of vision became equal to the good eye. Since then the patient is practising sun treatment and swinging and is quite all-right.

CHAPTER XVIII

RETINITIS PIGMENTOSA AND NYSTAGMUS

Most cases of retinitis pigmentosa give a history of poor sight from birth. In all cases the retina is covered, more or less completely, with black area. The field of vision is contracted, and, because they cannot see on either side of them patients frequently stumble. One characteristic of retinitis pigmentosa is that the vision is always changing sometimes for the better, sometimes for night blindness. In some cases myopia is present and it is of a kind which is difficult to cure.

In nystagmus the eyes move conspicuously from side to side, regularly or continuously. These movements occur so frequently in connection with serious eye disease that the presence of the symptom is an indication that the eye will usually require much time and attention. So seldom are the eye diseases with nystagmus are curable. Nystagmus is usually present in case of retinitis pigmentosa. Cases with imperfect sight may not have nystagmus but may acquire it at any age.

All patients with nystagmus and retinitis pigmentosa can not be treated in the same way. Palming several times a day, or the slow, short, easy swing are very helpful. In some cases long swing and imagination of 'O' hasten the improvement. Sun treatment is generally beneficial.

In November, 1938, Dinesh, aged thirteen was under treatment for retinitis pigmentosa and nystagmus. At ten feet from the card he could read the seventy line with the right eye, and the thirty line with the left eye. On the reading test type (Jaegar chart) at eight inches, he could read No 5 with right eye and No. 1 with left eye. Swinging exercises with some modifications and game helped in the improvement of sight. Particular attention was paid to correct the position of eyelids and blinking. For the improvement of general health, I put him on enema, hip bath and whole body massage. Diet was regulated and liver of goat was added to his diet. His vision went on increasing steadily, and after four months his vision was 10/30 with the right eye, and 10/10 with the left eye. On the reading test type he was able to read No.3 with the right eye and No. 1 with the left eye. Nystagmus disappeared except at the time when he raised the lids or stared at an object.

(2) Om Prakash aged twelve had retinitis pigmentosa and nystagmus with myopia. His vision was 5/50 in feet. On the reading test type he could read J4 at nine inches. He had the habit of eccentric fixation and the letters regarded were seen worse. Swinging exercises with central fixation proved very helpful. His vision improved to 5/20 for distance and J2 at nine inches for the near. Nystagmus became much less.

(3) A patient suffered from progressive myopia, and after sometime nystagmus developed. The vision became poor even with glasses. By following relaxation exercises nystagmus disappeared and the vision improved much. Glasses were prescribed only for distance.

CHAPTER XIX

STRAIN AND GLAUCOMA

GLAUCOMA

Glaucoma is a serious disease of the eyes which, some years ago, was considered incurable when chronic. In most cases, the eye-ball was usually too hard and this is the symptom which more than any other was the strongest evidence we had that the eye was suffering from glaucoma. The field of vision was contracted on the nasal side and the pupil was usually more or less dilated. One characteristic symptom was the apparent appearance of colours around the flame of a candle or some other similar light.

Glaucoma is a disease of adult life and seldom occurs in children. Its uncertainty is unusual. For example, a person with normal eyes and normal sight may retire perfectly comfortable. Sometime in the middle of the night, he may be awakened by a very intense pain, with total permanent blindness in both eyes from glaucoma. In a limited number of cases, the pain may be absent, although the vision may be partially lowered. The sudden onset may not occur, but one or both eyes may slowly, without pain, after a long time, a year or longer, become totally blind.

The results of the various methods of treatment, which were suggested and practised, have been so

disappointing, that we hesitate to foretell what may happen after any of them have been practised.

It was a very welcome discovery made by Dr. Bates that the relief of eye-strain always lessens tension, relieves pain and improves the vision. The discovery that relaxation methods cured glaucoma suggested that the cause was due to eyestrain. Experimental work proved this to be true. All methods of treatment, which promote relaxation, always benefit glaucoma.

Absolute glaucoma is a serious disease and the state can become so great that a large amount of pain and total blindness will be produced. The pain may be so severe that many ophthalmologists feel justified in removing the eye-ball to bring relief. While many cases of absolute glaucoma obtained much relief from pain after the removal of the eye-ball, there were too many cases which still had severe trouble, even after such an operation. A strain which produces absolute glaucoma is really a mental strain and not a local one entirely.

Glaucoma may be produced solely by the memory of imperfect sight. If a person with normal eyes and normal vision presses lightly on the eye-balls through the closed eye-lids and remembers or imagines a letter "O" with a gray, blurred outline very imperfect, the eye-ball can be felt to increase in hardness. When the patient remembers a letter "O" perfectly, the hardness of the eye-ball disappears and the eyes become normal as they were before. These experiments are offered as proof that the memory of imperfect sight is a strain which may produce

glaucoma, and the memory of perfect sight a relaxation, which will relieve glaucoma.

Some of the best methods of producing relaxation are the practice of the long swing, the universal swing, palming and sun-treatment. There are some people who cannot practise a certain swing correctly until after weeks of instruction. They are full of excuses and are quite ready to find fault with the method rather their own lack of practising properly. The memory of letters and other objects seen by central fixation becomes very much better in a short time. Imagination of thin white line or a white centre of a letter "O" whiter than the rest of the card is very helpful. Frequent enemias, fasting, dropping of lemon juice in the nose once or twice a week, regulation of diet have proved beneficial in glaucoma patients.

Case Report

1. A man, aged thirty-five, was all right when he went to bed. During the sleep, he got severe pain in the right eye. Redness increased and watering continued. The eye-ball became very sensitive. The vision was lost. The doctor whom he consulted said that he was suffering from glaucoma and iritis. The eye-ball was hard. This sort of inflammation had taken place two or three times before also and every time the inflammation continued for about two months.

The first thing that I did was that I gave a strong enema which caused about ten or twelve motions and much mucus passed with the fæces. Then I gave steam to the face for a

few minutes. Sun-treatment and relaxation exercises were practised. The whole trouble subsided within twenty-four hours, the eye-ball became soft, and the patient became all right in a week's time.

2. An old woman was suffering from glaucoma without pain, the vision was $1/20$. By the help of enema, regulation of diet, sun treatment and palming, she began to read fine print of Hindi test type within a fortnight.

3. Another old lady was suffering from inflammatory glaucoma with severe pain in the temples. First few drops of ginger powder mixed in milk were dropped in the nose, which brought out much discharge through the nose and mouth. This sort of treatment helped in relieving the pain. At bed time, the patient took purgative which caused about four motions. Sun-treatment and swinging exercises were practised. The redness subsided in a week's time and the vision began to improve. Since then, she did not get any attack of glaucoma.

4. An old man had absolute glaucoma and the vision was totally lost in the right eye and there was perception of light in the left eye. He had gone under operation when there was some vision in both the eyes; but the vision gradually went on diminishing. Such cases are incurable and no benefit is generally possible.

EYE STRAIN

One strains in different ways and the ways of treating strains are different; but, generally, the patients suffering from simple eye-strain are benefited by the right use of the eyes, sun-treatment and reading of photoprint. In some cases, symptoms of eye-strain are peculiar; and it seems as if the patient is suffering from granulations or trachoma, and the treatment of granulations does little or no good in such cases. Though relaxation exercises relieve the strain, but, in certain cases, one feels strain while practising them because the patient somehow is not able to relax. Many people have asked for help in choosing the best method of treatment of their particular eye trouble. A woman, aged sixty, complained that she had never been free of pain; pain was very decided in her eyes and head. She also had continuous pain in nearly all the nerves of the body. The long swing, when practised 100 times, gave her great relief from pain. The relief was continuous without any relapse. At the same time, a second woman of about the same age complained of a similar pain which, like the first patient, she had almost continuously. She was also relieved by practising the long swing. The long swing was practised by other people with a satisfactory result. It seemed that the swing was indicated for pain; it seemed to bring about better results than any other treatment. Later on, however, some patients applied for relief from pain which was not benefited by the long swing. Evidently, one kind of treatment was not beneficial in every case. A man suffering from tri-facial neuralgia, which caused great agony in all parts of the head, was not relieved at all by the long swing.

Palming seemed to be more successful in bringing about relief. Furthermore, there were patients who did not obtain benefit after half an hour of palming, who did obtain complete relief after palming for several hours.

The experience obtained by the use of relaxation methods in the cure of obstinate eye troubles has proved that what was good for one patient was not necessarily a benefit to other patients suffering from the same trouble and that various methods must be tried in each case in order to determine which is the most beneficial for each particular case.

(1) A student of 18 years of age used to suffer from headache and pain in the eye balls after reading for a short time. Sometimes, the eyes had watering and itching sensation, and sometimes the letters and words became dim or overlapping. Sleep always helped him in relieving the discomforts. The eye-sight was normal both for distance and near vision. All relaxation exercises increased the strain. Then, I suggested sun-treatment, walking and reading of photoprint and he became all right within a week.

(2) A lady patient had a slight but persistent redness in the eyes and a little swelling of her lid margins since childhood. It was not possible for her to come out even in ordinary light without the aid of dark glasses. She could not read without discomfort, though her eye-sight was normal. For many years, she was treated for trachoma. Glasses increased the trouble. She was very doubtful if my treatment would help her at all.

Generally, patients having photophobia are greatly

benefited by sun-treatment, but it was unusual in her case that sun-treatment helped her only a little. Blinking and swinging before window bars proved very beneficial, and within twenty days, her eyes became perfectly all right.

(3) Another lady of a royal family suffered from redness in the eyes, usually after sleep and after seeing cinema. It was painful for her to read a page or to write a letter. The doctors treated her for trachoma for a sufficiently long time. Her eye-sight was normal. Sun-treatment was a great benefit to her. She practised swinging and central fixation exercises for a few minutes every day after sun-treatment. She was educated in the right way of reading, writing and seeing the cinema. Within ten days, she became perfectly all right; and one day, when she went to the cinema and got no redness or strain, she was surprised to note the benefit.

CHAPTER XX

HEADACHE

Q. Can the headache not be due to errors of refraction?

A. No. It is due to strain. The strain of headache is different from that of errors of refraction. Many patients whether wearing glasses or not with very weak eyesight, do not suffer from headaches. In many cases even though the errors of refraction be fully corrected, glasses have no effect in relieving them of their headaches. Normal eyes can produce headache and pain in the eyeballs.

- a. Just look at a word in your book, note it appears to be blacker than the other words. Now try to see all the other words equally well and black at the same time, you will have discomfort and headache.
- b. Look at 'O'. Close the eyes and imagine it. It seems to be moving a little from side to side or up and down in your imagination. Try to stop the imagination of movement of 'O' and note that there is pain and heaviness in the head, eyes and temples.
- c. Look out of the window while moving in the train or car. Gaze at some particular object for sometime. You would soon feel headache or dizziness.

Q. Then why are some patients relieved of headache by using glasses ?

A. Because some patients, after using glasses begin, to see in the right way and make no effort in seeing objects. Therefore it is necessary to learn how to use eyes in the right way.

Q. Why do I get headache while walking in the sun or looking at bright objects?

A. Because the glare reflected causes strain. Blink frequently and face the sun with eyes closed for about ten minutes every morning.

Q. How is it, when I stare at any object, I soon get headache and the object becomes double ?

A. Staring is the cause of headache and it makes the object look double. Blink often.

Q. Why is headache generally present in fevers ?

A. Because the brain is congested and the nerves are under strain. Relieve the congestion by massage.

Q. My wife has normal eyesight and does not suffer from fever, but she suffers from severe headache from sunrise to sunset. How can she be helped?

A. Drop lemon-juice in nostrils for a few days in the morning. There will be discharge through the nose and mouth and she will be all right very soon.

Q. The top of my head remains hot and dull headache is present all the time. That being so, my memory has become weak. What do you suggest ?

A. Relieve the constipation. Take an enema with one ounce of lemon juice and three pints of luke warm water once a week; and a hip bath in cold water for 15 minutes everyday. Regulate the diet. Massage the head while keeping the eyes closed.

Q. Is Palming helpful for headache?

A. Yes. It has a magic effect on children. Palming does not help if the patient is unable to have perfect imagination. Severe pain in a glaucomatous patient was stopped by perfect imagination of a black dot in a few minutes.

Q. I have normal eyesight and am quite healthy; but after sleep in the morning and after seeing the cinema I get headache which lasts usually for a short time. Will your relaxation treatment cure my headache?

A. Yes. Headache after sleep indicates that you do not get sound sleep and wander in dreams usually of peculiar nature. Before going to bed run in a circle or close the eyes and cover them with the palms and imagine some black object or practise long swing. While seeing the cinema keep the chin little raised and upper lids down and blink frequently.

Q. I cured my headache and gained perfect eye-sight by imagining a small black dot. How will you explain this fact;

The brain has many nerves. Part of these nerves are called ganglion cells and originate in some particular part of the brain. Each has a function of its own. They are connected with other ganglion cells and with the aid of nerve fibres are connected with others located in various parts of the brain as well as in the spinal

cord, the eye the ear, the nerves of smell, taste, and the nerves of touch. The function of each ganglion cell of the brain is different from that of all others. When the ganglion cells are healthy, they function in a normal manner.

The retina of the eye contains numerous ganglion cells which regulate special things such as normal vision, normal memory, normal imagination and they do this with a control more or less accurate of other ganglion cells of the whole body. The retina has a similar structure to part of the brain. It is connected to the brain by the optic nerve.

Many nerves from the ganglion cells of the retina carry conscious and unconscious control of their ganglion cells which are connected to other parts of the body.

When the ganglion cells are diseased or at fault, the functions of all parts of the body are not normally maintained. In all cases of imperfect sight, it has been repeatedly demonstrated that ganglion cells and nerves of the brain are under a strain. When this strain is corrected by treatment, the functions of the ganglion and other cells become normal. The importance of the mental treatment cannot be over-estimated.

A study of the facts has demonstrated that a disease of some ganglion in any part of the body occurs in a similar ganglion in the brain.

Brain tension of one or more nerves always means disease of the nerve ganglia. Treatment of the mind with the aid of sight, memory and imagination has cured headache and many cases of imperfect sight without other treatment.

CHAPTER XXI

QUESTIONS AND ANSWERS

1. Q. Some days I can read the Snellen test card to the 15 ft. line, on others only to the 20 or 30 ft. line.

A. When the eyestrain is less, the vision is always improved. Continuous practice will make the sight perfect.

2. Q. How can one overcome the stare if it is unconscious?

A. Keep the upper lids lowered and blink consciously. While walking keep the sight on the ground and avoid to see in the front at a long distance. Never look at an object for more than a few seconds at a time. Shift your gaze frequently.

3. Q. When I wake up in the morning, I suffer from pain in the eyes and head. It becomes difficult to open the eyes and sometimes the eye-lids are swollen.

A. Practise long swing before and after sleep for 15 minutes, or run in a small circle. Some patients are benefited by muscular exercises which may produce sufficient muscular fatigue.

4. Q. Sometimes I feel before my eyes strings of black thread or small circles. Doctors call them floating specks. These floating specks are very annoying. How should I get rid of them?

A. The cause of floating specks is simply mental strain. Blinking and lowering the lids help much in relieving them. Practise palming and swinging several times a day.

5. Q. When I look towards an object even for a very short time, I see two images. The lines of letters become DOUBLE when I begin to read. Will you please suggest some treatment for me?

A. Blinking and lowering the lids will prove very helpful. When you look towards any object imagine it to be jumping with your blinking. Learn the methods of improving the near sight.

6. Q. How long does it take to cure an average case of myopia?

A. Some patients are cured more quickly than others. The length of time is uncertain, as patients differ in their response to treatment.

7. Q. Why is my vision worse on a rainy or cloudy day than in broad light?

A. Because you strain to see on a dark day.

8. Q. I am practising the methods to cure myopia and astigmatism. Sometimes, for short periods, I see perfectly, then things fade away. Can you explain this?

A. This is what we call getting flashes of perfect sight. With continued practice, these flashes will come more frequently and eventually will become permanent. Then you are cured.

9. Q. In case of illness when one is unable to

practise with the Snellen test card or stand up, what method is used?

A. Blink frequently and shift your eyes constantly from one point to another. Turn your head slightly from side to side on the pillow or close your eyes and think of something pleasant.

10. Q I am short sighted (myopic) and can read and write very easily without glasses; but my doctor has advised me to use glasses all the time. I can see all right at a distance but feel strain in near work with glasses. What do you advise?

A. Myopic patients should not use glasses for near work as their reading sight is quite good.

11. Q. I had good eyesight in my young age but somehow after sometime distant sight became defective. The doctor prescribed glasses for constant use to check further deterioration in eyesight. In spite of constant use of glasses and frequent consultation with the doctors, my eyesight went on decreasing. Finally the doctor advised me to discard reading and writing.

A. Your eyesight would not have deteriorated if the doctor would have given you three suggestions along with the use of glasses.

- a. No glasses for near work.
- b. Avoid strain by frequent blinking.
- c. Take sun treatment every morning.

Reading at a near point does not increase myopia, but always lessens it. Look at a card of fine print at six inches from your eyes and read it as well as you

can. Now make an effort to see it better and note that your vision for the near point is lowered, while the ability to read the fine print at a greater distance is improved.

12. Q. Being a high myopic patient can not see at short distance even with glasses. Reading also is difficult. You advise to discard glasses before beginning to practise. How can I pull on work and treatment?

A. Take leave from your work for a month or so and improve your sight as much as you can. Then you may take lowest power of glasses. Use them only in necessity. Avoid their use in reading and writing. Keep up your practices once a day at east.

If you are not able to take leave from your work or are unable to discard glasses, learn blinking and take sun treatment daily to check further deterioration.

13. Q. My vision, after practice with the card, is good, but I cannot sustain it. What means can I use to have continuous vision?

A. Acquire a continuous habit of imagining stationary objects to be moving easily, until it becomes an unconscious habit. Make blinking and the position of the lids perfect.

14. Q. I have improved my sight by palming, but when I read for any length of time, the pain returns.

A. When you read and your eyes pain you, it means that you are straining your eyes. Frequent blinking, suntreatment and palming may help you.

15. Q. If the arms get tired, is it all right to rest

the elbows on a desk or something like that while palming ?

A. The elbows should rest on a desk or a table or on a pillow placed in the lap.

16. Q. What treatment helps most people ?

A. Blinking, suntreatment and palming.

17. Q. My eyesight is normal but when I read I get pain in the eyes and head. The doctor tried glasses but they increased the trouble.

A. It is because you do not read with central fixation. Your eyes try to see many a words at a time. Practise central fixation exercises.

18. Q. What causes redness and smarting sensation of the eye, even when plenty of suntreatment has been given ? Should one continue with the suntreatment under the circumstances ?

A. Take the suntreatment frequently for five or ten minutes at a time daily, increasing the length of time until the eyes become accustomed to the sun. The eyes should always be benefited after the suntreatment, and one should always feel relaxed. When done properly, the redness and smarting should disappear soon. If the eyes are not benefited, it is an indication that you strain while taking the suntreatment. Alternate the suntreatment with palming or closing the eyes to rest them.

19. Q. If I am reading in the sun I can see the print perfectly and my eyes do not trouble me, but if I raise my eyes and look at any other object, every thing seems blurred and there are coloured spots before

my eyes. Is this caused by the sun or the manner in which I read ?

A. The sun is beneficial to the eyes, but the glare of light on the white page produces a tension of the nerves. The suntreatment should help you. Practise it daily for ten to thirty minutes.

20. Q. Are the dark sun glasses harmful ?

A. Dark glasses are injurious to the eyes, but one may use very light colour crooks A only when there is much glare.

He was a very intelligent chauffeur, and very polite and popular with most people. I enjoyed listening to his experiences in driving various types of cars. Nothing seemed to give him so much pleasure as to get into a "jam" and get out without suffering any injury to his own car or without tearing the "enemy", as, he explained, were the numerous other cars which were driven by chauffeurs who did not understand their business very well and who enjoyed teasing the inexperienced drivers.

One day, we were driving to the seashore. The sun was very bright and the reflection of the light from the sun on the water was very strong and made most of the occupants of the car very uncomfortable. Personally, I enjoyed the strong light of the sun. The chauffeur did not wear glasses for the protection of his eyes from the sun or dust and I asked him if he had ever worn them. He very promptly answered me by saying that he had worn them at one time, but discontinued wearing them because he found that after wearing them for a few days,

his eyes became more sensitive to the light than they were before. He said he could not understand why it was that when he wore glasses to protect his eyes from the dust, he accumulated more foreign bodies in his eyes than ever before. This seemed strange to the people in the car and they asked him to explain. It was decided that when the dust got into the eyes, the glasses prevented the dust from going out.

The eyes need the light of the sun. When the sun's rays are excluded from the eyes by dark glasses, the eyes become very sensitive to the sun when the glasses are removed. It is very beneficial to face the morning sun for ten to thirty minutes with the eyes closed.

21. Q. If I am worried at night and lie awake, my eyes burn and pain, and I have a feeling that a magnet is drawing my eyes through my head. What causes this and what is the cure?

A. This is caused by the strain of the mind. Just before retiring and just after rising in the morning, practise the long swing.

22. Q. My eye sight is normal both for distance and reading. What should I do to keep them perfect?

A. Blink frequently. Take suntreatment for about ten minutes daily in the morning. When you come near forty years of age, read five print at six inches distance with each eye daily.

23. Q. What causes my vision to become blurred upon sudden confusion or when I have a number of activities coming at once?

A. The fact that your vision becomes blurred at such times is proof of your eccentric fixation. Do not try to see or do several things at once. Practise central fixation, seeing the part regarded best and other parts not so clearly, all day long.

24. Q. It is very hard for me to think in terms of black and white. Is there some other method which is just as beneficial?

A. Yes, letting your mind drift from one pleasant memory to another will accomplish the same results.

25. Q. Would the reading of fine print at four inches be helpful.

A. The reading of fine print at four inches is usually helpful.

26. Q. I have attained normal vision, but after reading for a while, my eyes feel strained. Would you still consider I had normal sight?

A. If your eyes feel strained you are not reading with normal vision.

27. Q. It is difficult for me to find time enough to gain perfect relaxation. What would you suggest?

A. You have just as much time to relax as you have to strain. Practise relaxation all day long. Whenever you move your head or eyes, notice that stationary objects move in the direction opposite to the movement of your head or eyes. Walking about the room, or on the street, the floor or pavement appears to come toward you, while objects on either side

of you move in the direction opposite to the movement of your body. Remember to blink frequently just as the normal eye does. Constantly shift your sight from one point to another seeing the point regarded more clearly than all other parts. When talking with any one do not stare. Look first at one eye and then the other, remembering to blink.

28. Q. Why is it that I have perfect vision only in flashes ? Can these flashes become permanent ?

A. You have not yet lost your unconscious habit of straining. When relaxation methods are practised faithfully at all times, the flashes of improved vision become more frequent and last longer until the vision becomes continuously good.

29. Q. Can you explain why I see yellow and blue spots after looking at the sun ?

A. You are straining. Do not look directly at the sun until your eyes are more accustomed to it. Practice sun treatment with the eyes closed.

30. Q. Is working or reading under electric light harmful ?

A. It is not harmful to read by electric light if the eyes are used properly and if there is not dazzling light on the paper.

31. Q. Why do some people see better by partly closing the eyes ?

A. People with poor sight can see better by partly closing the eyes, but when they have perfect sight, partly

closing the eyes makes it worse. This is a good test for the vision of ordinary objects.

32. Q. Please explain what you mean when you say "imperfect sight, imperfect memory."

A. If you see an object imperfectly, blurred or gray instead of black, you cannot remember it perfectly. You will remember it as you see it.

33. Q. If type can be seen more distinctly with the eyes partly closed, is it advisable to read that way?

A. No, it is not advisable to read that way because it is a strain, and alters the shape of the eyeball.

34. Q. Can a patient while practising your method carry on his daily work just the same?

A. Yes, most patients continue their work just the same without the use of their glasses even though they find it difficult at the start.

35. Q. Can the vision be improved after the lens has been removed for cataract?

A. Yes.

36. Q. What causes styes?

A. Infection, which is always associated with eyestrain.

37. Q. Trying to make things move gives me a headache. Palming gives me more relief. Why?

A. Making an effort to do a thing will not help you. When you are walking on the street, the street should go in the opposite direction without effort on your part.

Some people get more relief from palming, while swinging helps others more.

38. Q. Should one imagine a thin white line along the top of a word or sentence or just at the bottom?

A. If you can imagine it at the top as easily as you can at the bottom, do so, otherwise imagine it only at the bottom.

39. Q. If strain is the cause of imperfect sight, why are not all affected in the same way. Why is it that some have myopia, others astigmatism, etc.

A. Different people react in different ways to strain. Some have mind strain some nerve strain, some physical strain, etc. All these tend to cause various ailments. One's temperament also has a great deal to do with it.

40. Q. Are moon rays in any way beneficial to the eyes? The full moon gaze?

A. Yes. Read central fixation on moon.

41. Q. Is gazing on green grass turf or at blue sky 'beneficial to the eyes?

A. Yes, because there is nothing to stare.

42. Q. Is application of any antimony which discharges watering from the eyes, beneficial?

A. Yes.

43. Q. Is 'Sirsasan' i. e. standing on the head with feet above for a few minutes, which reverts the blood circulation, good for the eyes?

A. Yes, but one should learn it first under the teacher. It is important to note that the eyes should remain closed while practising "sirsasan".

44. Q. Is putting of rose water drops or honey beneficial to the eyes ?

A. Yes, but not in every case.

45. Q. Is occasional weeping beneficial in any way?

A. Yes, but weeping in the love of the Lord is highly beneficial.

46. Q.—Are bad health and bad sexual habits not the cause of defective eyesight ?

A. Not necessarily. Many persons having bad health or having bad sexual habits do not suffer from defective eyesight. There are many others who have very good health and muscular body, but suffer from defective eyesight. These things can increase the strain if it already exists in the person or can produce a tendency to strain.

47. Q. By using glasses, why does the degree of myopia remain the same in some persons, and goes on increasing in many others, causing severe damage sometimes ?

A. When the doctor prescribes glasses, he is not able to distinguish whether in a particular case myopia will increase. He prescribes glasses with the idea that the progress of myopia will be prevented. In some cases it does not increase because, somehow, the person began to see the objects without effort; but in a

majority of cases myopia goes on increasing because the habit of straining is not relieved.

48. Q. Do you mean that all patients wearing glasses can discard them? Have glasses no room in the treatment of errors of refraction?

A. No, all patients can not discard the glasses. Some can discard them, while others can be benefited and can use the lower power of glasses at the same time. Glasses have also their place, but their prescription and use should be limited; at the same time one should practise eye exercises for a few minutes every day to maintain the health of the eye.

49. Q. How can one give rest to maintain at least the remaining vision when the eye sight is very defective? Is reading harmful?

A. The eyes are meant to see. Their right use should be learnt. Reading can be made a means of great benefit to the eyes, if one reads in the right way. Correct position of lids, sun-treatment, palming and swinging are helpful means to give rest to the eyes. Myopic patients strain more when they discard reading and keep on looking distant objects. It is generally forgotten that myopia is caused by straining to see distant things and not near things.

50. Q. How is it, you have prescribed different methods for the same disease? How can one know the right treatment for himself?

A. The main object in the treatment is relaxation. Whatever method will relax the mind of the patient will be beneficial to him. If some method does not

bring good results, it should be discarded and some other should be tried; but in certain cases, practical demonstrations by an experienced man are absolutely necessary; because mistakes in the exercise are liable. Moreover, intuition guides one to adopt particular lines of treatment.

51. Q. It is said that rubbing the eyes after meals improves the eye-sight. If it is so, then why particularly after meals?

A. It is right that rubbing the eyes after meals improves the sight and helps in relieving headache and other discomforts; but rubbing the eyes in the right way is useful and I call this method "contact swing". Its practice is specially useful after meals because the blood circulation in the hands is increased and a sort of magnetism is developed. If one can improve the blood circulation in the hands at other times, contact swing will have the same useful effect.

Contact Swing.—Close the eyes and keep the palms of the hands on them. Now move your face up and down while the hands remain in position. You will feel that hands move down when you move your face up and vice versa. Practise for 5 minutes or more several times a day. It is very helpful after the meals. This contact swing relieves the strain, gives relaxation, and is very useful in headaches and defective vision.

51. Q. Is it good to fix up the sight inbetween the eye brows as is said by some persons?

A. It is useful if one can concentrate in between

the eye-brows through the internal eye and the external eyes act simply as an expression of the inner eye. It is harmful if one simply uses the external eyes to fix up in between the eye brows.

53. Q. If a person with imperfect sight has a good imagination, why is his sight imperfect?

A. One needs a perfect imagination at all times and in all places to have perfect sight. Persons with imperfect sight, who have a good imagination, fail to use it; they suppress it and imagine things imperfectly by an effort which, of course, lowers their vision.

54. Q. What precautions should I take at the time of medical test of my eyes?

A. When you are called for the eye examination, remember three points.—

1. Cover one eye with the palm and not with the fingers. The fingers cause pressure on the eye ball, and consequently the sight becomes defective. You are unable to read the smaller letters with that covered eye.
2. Keep the chin little raised, and the lids down.
3. Blink gently on each letter.

55 Q. Have looking at beautiful things and at moon any good effect on eye-sight?

A. Yes, it is soothing and useful no doubt; but one should take care not to stare. The following story is a very interesting one:

FAIRIES

A certain man had much money. One day, he gave forty millions to charity, and had a lot left. He invited me to spend an evening at his home. He asked me if I would like to learn how he made his money. I answered, "No."

"What would you like to talk about?" Was his next question.

I replied, "Although you seem to be well advanced in years, your hair is not gray and your eyes seem good because I notice that you are able to *read without glasses*. How have you been able to preserve your eye-sight all these years."

He smiled and answered, "I do not know unless it was due to the influence of New Year Fairies." He stopped and waited for me to say something.

All I said was: "Tell me about it."

He told me that he had many brothers and sisters. All of them now dead. Christmas, one year, had been a very sorry affair. They had very little to eat, and their poverty was extreme.

New Year's Eve, as he sat by the open fire, a small boy of ten, he felt very hungry, very despondent and very unhappy. He watched the flames of the burning wood, watched them grow larger, grow smaller, change their colour, and, as he watched, a fairy appeared in the light. She had the most beautiful eyes that he had ever seen. They were so bright, clear, full of

sympathy and love that he could not look away from them. She seemed to read his mind, and spoke encouraging words to him, which made him feel better. Then another fairy, all dressed in blue, a very beautiful blue, waved her hands to him, threw him a kiss and started to dance. While she was dancing, other fairies came out of the dark and began to dance with her. It seemed to him that wherever there was a spot of light, there was fairy, many fairies, all of them with the same sympathetic, a loving, blue eyes of the first fairy.

The memory of these eyes has never been lost. He said that he could see them now just as clearly as he did in the long ago. The memory of these eyes brought with it a wonderful feeling of rest, relaxation and comfort. It seemed to him that those fairies brought a blessing which had helped him to accomplish many things which other people believed were impossible.

After he went to bed in the dark, it seemed that he could still see the burning fire and all those fairies with their sympathetic and loving eyes. When he awoke next morning, his attitude of mind was entirely different. He ran to each member of the family, his father, his mother, each sister and brother, threw his arms around them and wished them all a happy New Year. He tried to dance as he had seen the fairies dance, he tried to smile as he had seen them smile; he tried to be as sympathetic and as kind to every body as the fairies had been to him. He was all eagerness to be busy. Formerly, he had shirked what little work was expected from him, but now he had an uncontrollable desire to be busy, to do things. He

had no feeling of fatigue, no matter how hard he worked or how much he accomplished. His mother was amazed to have him fly around the kitchen, and to help here in as many ways as he possibly could. He brought in more wood for the stove than could be used in a week. He ran to the barn and started in cleaning the house. It was the first time in his life that he felt a desire to do something to help the horses, the cows, and other animals. He got busy with a few tools and fixed up the chicken-coop, stopped all the cracks so that the cold air would not blow on the chickens, and all the time he was thinking of those eyes of New Year Fairies, because the memory of their love did him so much good.

He felt a desire to go to the school, and tramped through the deep snow two miles to go there. The teacher was surprised to see him and asked him what he desired.

"I want to go to school. I want to learn things. I want to be a big man. I want to make people happy."

The teacher smiled, gave him a desk, some paper, a pencil and a few pages of the primer, and told him to copy as much as he possibly could. He used up a great deal of paper, and before was out, he had done something very wonderful, because he had copied all the pages that had been given to him.

He told me that his health was always good, and as fat as his eyes were concerned, he never gave them

a thought. He knew that he could see well, but he was not conscious that he had eyes most of the time. When he was forty-five, he had an attack of the grippe, from which he soon recovered, but when he tried to read the newspaper, he was very much alarmed to discover that his sight was very poor. He at once consulted an eye specialist, who told him that he needed glasses because all persons in the middle life, passed the age of forty, needed glasses. He had some business to attend to which occupied his time for a few days. During that time, he tried to rest the eyes by not looking at the newspaper. After avoiding any use of his eyes for reading for four days, they felt quite comfortable. Later on, he picked up the newspaper, and was surprised to find that he could read it for a short time. When his eyes tired, he rested them, and he discovered that by reading the paper and resting the eyes, his vision improved to the normal. At subsequent periods in his career he had similar attacks of being unable to read, which were always relieved by rest. He felt that as long as he could improve his sight by resting the eyes, it would be perfectly safe for him not to wear glasses.

"It may sound very queer to you", he said, "but I find that I can obtain perfect relief immediately when I remember the sympathy and love in the eyes of those New Year Fairies."

56. Q. What should be the distance to practise with the Snellen test card?

A. The best distance to practise with the Snellen test card varies widely. Generally the patients begin to

practise at ten feet distance and gradually increase it to twenty feet distance. If no improvement is manifest in a few minutes, it is well to try practising on one card at a near point where the vision is good and to FLASH the more distant card alternately.

One patient, a girl, aged 18, had myopia of—4.0. Practising without her glasses at fifteen feet did not improve her sight. The card was brought closer, to six feet, where the vision was 6/70. She held another card in her hand and practised looking at the first letter of the 10 feet line, a letter F, at one foot where she could see it quite perfectly with a slow, short, easy swing, and at the same time imagine her body was swinging with the F. This she became able to do by moving her head and eyes. Later, she imagined the swing of the F without having to move her head. She alternately regarded the F at the near point and imagined her body was swinging with the F and then flashed the first letter of each line of the Snellen card at six feet without modifying or stopping the swing of the body. Her vision rapidly improved so that she became able to read the 10 feet line at six feet. The card was then placed at fifteen feet and by practising in the same way, she became able to read all the letters without stopping the body swing. She then practised with card that she had never seen before and was able to read the bottom line as quickly on the strange card as she could on a familiar one. When she looked at the large letters at first, she unconsciously made an effort, stopped her swing and failed to read them. By looking between the lines of letters and planning to test her swing without testing her sight, she was able to maintain the swing of the

letter F or the swing of her body, swinging with the letter F, which improved her vision decidedly.

57. Q. I have imperfect eye-sight and have read your book "Mind and Vision," but could not understand the fundamental principles to cure my imperfect eye-sight.

A. If you learn the fundamental principles of perfect sight and will consciously keep them in mind; your defective vision will disappear.

Remember that all defective vision is due to strain in some form, you can demonstrate to your own satisfaction that strain lowers the vision, when you stare, you strain. Look fixedly at a letter for five seconds or longer. What happens? The blackness and the white back-ground of the letter blur. Also, your eyes are made uncomfortable by this experiment. When you rest your eyes for a few moments the vision is improved and the discomfort relieved. Strain is relieved by relaxation.

The normal eye with perfect sight makes no effort to see, like other sense organs. It does all work at rest. When the normal eye looks at a letter, it notes three point.

a. The part of the letter regarded is seen best. This is central fixation.

b. The letter makes short and gentle movements, either from side to side or up and down. This is swinging.

c. The back-ground of the letter flashes whiter than the rest of the card. This is imagination.

In the eye with imperfect sight, these three facts are lacking or absent. If one can produce these normal facts, the vision is benefited.

To use the eyes correctly all day long, it is necessary that you . . .

1. Blink frequently,

2. Shift your glance constantly from one point to another, seeing the part regarded best and other parts not so clearly. That is, when you look at a chair, do not try to see the whole object at once; look first at the back of it, seeing that part best and other parts worse. Remember to blink as you quickly shift your glance from the back to the seat and legs, seeing each part best, in turn.

3. Your head and eyes are moving all day long. Imagine that stationary objects are moving in the direction opposite to the movement of your head and eyes.

A woman, aged sixty, recently came to me for treatment. She had worn glasses for more than thirty years to improve her vision not only for distance, but also for reading. Bifocals made her eyes feel worse and produced a greater amount of discomfort than any other glasses. Three years ago, the vision of the right eye was good and she could read a newspaper with her glasses. With the left eye, she could not read, even with glasses. Her vision for distant objects was imperfect and was not improved by glasses. Sometimes, the right eye had good vision, while the vision of the left eye was much less. On other occasions, the vision of the left eye was good, while that of the right eye was very imperfect.

She had been to see a great many eye specialists for treatment, but none had been able to fit her properly with glasses for distance or for reading. All these eye specialists admitted that they did not know the cause of her imperfect sight. She was fitted with many pairs of eye glasses, no two of which were alike. Some doctors prescribed eye drops, others internal medicines. With the hope of giving her relief from the agony of pain, which she suffered, various serums were administered. Some eye specialists treated her for cataract, others for diseases of the retina, optic nerve and other parts of the interior of the eye-ball.

She was suffering from eye-strain or a mental strain, which produced many different kinds of errors of refraction. When she strained her eyes, she produced a malformation of the eye-balls which caused imperfect sight. This condition had been temporarily improved by glasses. In a few days or a week, however, the glasses had caused her great discomfort and made her sight worse.

I made a very careful ophthalmological examination, but found no disease in any part of the eye. Her eyes were normal, although the vision was imperfect. I emphasized the fact that if she wished to be cured permanently, it was necessary for her to discard her glasses and not to put them on again for any purpose whatever. This she consented to do.

The use of her memory and imagination helped to improve her vision. She committed to memory the various letters of the Snellen test card and with her eyes open, regarding each letter, her memory or imagination of the letters was good. When she closed her eyes,

not only could she remember or imagine each letter perfectly black, but she also could remember the size of the letter, its location, its white centre and the white halos which surrounded it. With her eyes closed, she could remember the whiteness of the spaces between the lines much better than she could imagine it with her eyes open. With the aid of the retinoscope, I found that when she imagined normal vision with her eyes open, there was no myopia, hypermetropia, nor astigmatism present. When she suffered from pain, however, the shape of the eyeball was changed and her vision always became worse.

The patient demonstrated that the normal eye is always normal when the memory or imagination is good. When the memory or imagination is imperfect, the vision of the normal eye is always imperfect.

A Snellen test card with a large letter "C" at the top was placed about fifteen feet in front of her. To one side was placed another Snellen test card with a large letter "L" at the top. She was unable to distinguish the large letter "L" with either eye, but she could read all the letters on the "C" card, including the bottom line, with the aid of her memory and imagination. With a little encouragement, she became able to imagine the large "L" blacker than the large "C", although she could not distinguish the "L". In a few minutes, when she imagined the "L" blacker than the big "C", she became able to distinguish it. By the same methods, she became able with the help of her memory and imagination to imagine small letters on the large "L" card to be as black as the letters of the same size on the "C" card. By improving the blackness of the small letters on the large "L" card, and imagining them perfectly black

alternately with her eyes open and closed, the small letters became visible and she was able to distinguish them.

When this patient looked fixedly at, or centred her vision upon, one part of a large letter at six inches, she found that it was difficult, and it required an effort, to keep her eyes open, and to look intently at one point. She also found that, by looking at other letters and trying to see them all at once, or by making an effort to see all the letters of one word simultaneously, her vision was lowered. When she was advised to look at the white spaces between the lines, she said that it was a rest and that the white spaces seemed whiter, and the black letters then seemed blacker. When she avoided looking directly at the letters, she became able to read some of the large print.

After she had imagined the white spaces between the lines to be whiter than they really were, it was possible for her to imagine the thin, white line. This line is imagined along the bottom of a line of letters where the black of the letters meets the white of the white space. She was not always sure that she looked at the white spaces, although she planned to do so. When she tried to read and felt pain or discomfort, she was unconsciously looking at the letters; but when she looked at the white spaces and succeeded in avoiding the letters, she felt no discomfort and she was able to read almost continuously without being conscious that she was looking at the letters. When she practised relaxation methods, did not stare, did not strain, nor tried to see, her vision became normal.

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9. Can you see well at a distance without glasses?....
10. What is the power of your glasses ?
Right eye.....
Left eye.....
11. Do your eyes pain you or tire quickly when reading or at close work ?.....
12. Is there strabismus (squint) ?.....
13. Does either eye involuntarily wander to the right or left, up or down ?.....

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